

# 2021 POLICE INTERCEPTOR UTILITY Owner's Manual



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2021 POLICE INTERCEPTOR UTILITY Owner's Manual



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## California Proposition 65



**WARNING:** Operating, servicing and maintaining a passenger vehicle or off-highway motor vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to [www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle).



**WARNING:** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm.  
**Wash your hands after handling.**



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# Introduction

## ABOUT THIS MANUAL

Thank you for choosing Ford. We recommend that you take some time to get to know your vehicle by reading this manual. The more that you know about your vehicle, the greater the safety and pleasure you will get from driving it.



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

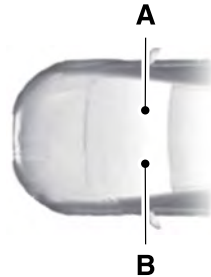
**Note:** This manual describes product features and options available throughout the range of available models, sometimes even before they are generally available. It may describe options not fitted to the vehicle you have purchased.

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

**Note:** Always use and operate your vehicle in line with all applicable laws and regulations.

**Note:** Pass on this manual when selling your vehicle. It is an integral part of your vehicle.

This manual may qualify the location of a component as left-hand side or right-hand side. The side is determined when facing forward in the seat.



- A Right-hand side.
- B Left-hand side.

## SYMBOLS GLOSSARY

These are some of the symbols you may see on your vehicle.



Air conditioning system



Air conditioning system lubricant type



Anti-lock braking system



Avoid smoking, flames or sparks



Battery



Battery acid



Brake fluid - non petroleum based



Brake system

# Introduction



Brake system



Flammable



Cabin air filter



Front airbag



Check fuel cap



Front fog lamps



Child safety door lock or unlock



Fuel pump reset



Child seat lower anchor



Fuse compartment



Child seat tether anchor



Hazard flashers



Cruise control



Heated rear window



Do not open when hot



Windshield defrosting system



Engine air filter



Interior luggage compartment release



Engine coolant



Jack



Engine coolant temperature



Keep out of reach of children



Engine oil



Lighting control



Explosive gas



Low tire pressure warning



Fan warning



Maintain correct fluid level



Fasten seatbelt



Note operating instructions

# Introduction



Horn control



Panasonic alarm



Parking aid



Parking brake



Power steering fluid



Power windows front/rear



Power window lockout



Requires registered technician



Safety alert



See Owner's Manual



See Service Manual



Service engine soon



Passenger airbag activated



Passenger airbag deactivated



Side airbag



Shield the eyes



Stability control



Hill descent control



Trail control



Windshield wiper system



Windshield wash and wipe

## PERCHLORATE

Certain components in your vehicle such as airbag modules, seatbelt pretensioners and remote control batteries may contain perchlorate material. Special handling may apply for service or vehicle end of life disposal.

### For more information visit:

Web Address
<a href="http://www.dtsc.ca.gov/hazardouswaste/perchlorate">www.dtsc.ca.gov/hazardouswaste/perchlorate</a>

## FORD CREDIT

### US Only

Ford Credit offers a full range of financing and lease plans to help you acquire your vehicle. If you have financed or leased your vehicle through Ford Credit, thank you for your business.

# Introduction

For assistance call 1-800-727-7000, or for more information about Ford Credit and access to the online Account Manager tool, visit [www.ford.com/finance](http://www.ford.com/finance).

## REPLACEMENT PARTS RECOMMENDATION

We have built your vehicle to the highest standards using quality parts. We recommend that you demand the use of genuine Ford and Motorcraft parts whenever your vehicle requires scheduled maintenance or repair. You can clearly identify genuine Ford and Motorcraft parts by looking for the Ford, FoMoCo or Motorcraft branding on the parts or their packaging.

## Scheduled Maintenance and Mechanical Repairs

One of the best ways for you to make sure that your vehicle provides years of service is to have it maintained in line with our recommendations using parts that conform to the specifications detailed in this Owner's Manual.

Genuine Ford and Motorcraft parts meet or exceed these specifications.

## Collision Repairs

We hope that you never experience a collision, but accidents happen sometimes.

Genuine Ford replacement collision parts meet our stringent requirements for fit, finish, structural integrity, corrosion protection and dent resistance. During vehicle development we validate that these parts deliver the intended level of protection as a whole system. A great way to know for sure you are getting this level of protection is to use genuine Ford replacement collision parts.

## Warranty on Replacement Parts

Genuine Ford and Motorcraft replacement parts are the only replacement parts that benefit from a Ford Warranty.

The Ford Warranty may not cover damage caused to your vehicle as a result of failed non-Ford parts.

For additional information, refer to the terms and conditions of the Ford Warranty.

## SPECIAL NOTICES

### New Vehicle Limited Warranty

For a detailed description of what is covered and what is not covered by your vehicle's New Vehicle Limited Warranty, refer to the Warranty Guide that is provided to you along with your Owner's Manual.

### Special Instructions

For your added safety, your vehicle is fitted with sophisticated electronic controls.



**WARNING:** You risk death or serious injury to yourself and others if you do not follow the instruction highlighted by the warning symbol. Failure to follow the specific warnings and instructions could result in personal injury.



**WARNING:** Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.

# Introduction

## On Board Diagnostics Data Link Connector



**WARNING:** Do not connect wireless plug-in devices to the data link connector. Unauthorized third parties could gain access to vehicle data and impair the performance of safety related systems. Only allow repair facilities that follow our service and repair instructions to connect their equipment to the data link connector.

Your vehicle has an OBD Data Link Connector (DLC) that is used in conjunction with a diagnostic scan tool for vehicle diagnostics, repairs and reprogramming services. Installing an aftermarket device that uses the DLC during normal driving for purposes such as remote insurance company monitoring, transmission of vehicle data to other devices or entities, or altering the performance of the vehicle, may cause interference with or even damage to vehicle systems. We do not recommend or endorse the use of aftermarket plug-in devices unless approved by Ford. The vehicle Warranty will not cover damage caused by an aftermarket plug-in device.

## Notice to Owners of Pickup Trucks and Utility Type Vehicles



**WARNING:** Utility vehicles have a significantly higher rollover rate than other types of vehicles.

Before you drive your vehicle, please read this Owner's Guide carefully. Your vehicle is not a passenger car. As with other vehicles of this type, failure to operate this vehicle correctly may result in loss of vehicle control, vehicle rollover, personal injury or death.

## Using Your Vehicle With a Snowplow

**Do not use this vehicle for snowplowing.**

Your vehicle does not have a snowplowing package.

## Using Your Vehicle as an Ambulance

**Do not use this vehicle as an ambulance.**

Your vehicle does not have the Ford Ambulance Preparation Package.

## Decommissioning Requirements

We have implemented a decommissioning process of Ford-provided police features. It is the responsibility of the owner to complete the decommissioning of the vehicle in compliance with any state regulations prior to initial sale to the public sector. See **Decommissioning Requirements** (page 336).

## MOBILE COMMUNICATIONS EQUIPMENT



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

# Introduction

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Using mobile communications equipment is becoming increasingly important in the conduct of business and personal affairs. However, you must not compromise your own or others' safety when using such equipment. Mobile communications can enhance personal safety and security when appropriately used, particularly in emergency situations. Safety must be paramount when using mobile communications equipment to avoid negating these benefits. Mobile communication equipment includes, but is not limited to, cellular phones, pagers, portable email devices, text messaging devices and portable two-way radios.

## EXPORT UNIQUE OPTIONS

For your particular global region, your vehicle may be equipped with features and options that are different from the features and options that are described in this Owner's Manual. A market unique supplement may be supplied that complements this book. By referring to the market unique supplement, if provided, you can properly identify those features, recommendations and specifications that are unique to your vehicle. This Owner's Manual is written primarily for the U.S. and Canadian Markets. Features or equipment listed as standard may be different on units built for export. **Refer to this Owner's Manual for all other required information and warnings.**

# Data Privacy



**WARNING:** Do not connect wireless plug-in devices to the data link connector. Unauthorized third parties could gain access to vehicle data and impair the performance of safety related systems. Only allow repair facilities that follow our service and repair instructions to connect their equipment to the data link connector.

We respect your privacy and are committed to protecting it. The information contained in this manual was correct at the time of publication, but as technology rapidly changes, we recommend that you visit the local Ford website for the latest information.

Your vehicle has electronic control units that have data recording functionality and the ability to permanently or temporarily store data. This data could include information on the condition and status of your vehicle, vehicle maintenance requirements, events and malfunctions. The types of data that can be recorded are described in this section. Some of the data recorded is stored in event logs or error logs.

**Note:** *Error logs are reset following a service or repair.*

**Note:** *We may provide information in response to requests from law enforcement, other government authorities and third parties acting with lawful authority or through a legal process. Such information could be used by them in legal proceedings.*

Data recorded includes, for example:

- Operating states of system components, for example fuel level, tire pressure and battery charge level.
- Vehicle and component status, for example wheel speed, deceleration, lateral acceleration and seatbelt status.

- Events or errors in essential systems, for example headlamps and brakes.
- System responses to driving situations, for example airbag deployment and stability control.
- Environmental conditions, for example temperature.

Some of this data, when used in combination with other information, for example an accident report, damage to a vehicle or eyewitness statements, could be associated with a specific person.

## Services That We Provide

If you use our services, we collect and use data, for example account information, vehicle location and driving characteristics, that could identify you. We transmit this data through a dedicated, protected connection. We only collect and use data to enable your use of our services to which you have subscribed, with your consent or where permitted by law. For additional information, see the terms and conditions of the services to which you have subscribed.

For additional information about our privacy policy, refer to the local Ford website.

## Services That Third Parties Provide

We recommend that you review the terms and conditions and data privacy information for any services equipped with your vehicle or to which you subscribe. We take no responsibility for services that third parties provide.



# Data Privacy

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## SERVICE DATA

Service data recorders in your vehicle are capable of collecting and storing diagnostic information about your vehicle. This potentially includes information about the performance or status of various systems and modules in the vehicle, such as engine, throttle, steering or brake systems. In order to properly diagnose and service your vehicle, Ford Motor Company (Ford of Canada in Canada), and service and repair facilities may access or share among them vehicle diagnostic information received through a direct connection to your vehicle when diagnosing or servicing your vehicle. Additionally, Ford Motor Company (Ford of Canada, in Canada) may, where permitted by law, use vehicle diagnostic information for vehicle improvement or with other information we may have about you, for example, your contact information, to offer you products or services that may interest you. Data may be provided to our service providers such as part suppliers that may help diagnose malfunctions, and who are similarly obligated to protect data. We retain this data only as long as necessary to perform these functions or to comply with law. We may provide information where required in response to official requests to law enforcement or other government authorities or third parties acting with lawful authority or court order, and such information may be used in legal proceedings. For U.S. only (if equipped), if you choose to use connected apps and services, you consent that certain diagnostic information may also be accessed electronically by Ford Motor Company and Ford authorized service facilities, and that the diagnostic information may be used to provide services to you, personalizing your experience, troubleshoot, and to improve products and services and offer you products and services that may interest

you, where permitted by law. For Canada only, for more information, please review the Ford of Canada privacy policy at [www.ford.ca](http://www.ford.ca), including our U.S. data storage and use of service providers in other jurisdictions who may be subject to legal requirements in Canada, the United States and other countries applicable to them, for example, lawful requirements to disclose personal information to governmental authorities in those countries.

## EVENT DATA

This vehicle is equipped with an event data recorder. The main purpose of an event data recorder is to record, in certain crash or near crash-like situations, such as an airbag deployment or hitting a road obstacle; this data will assist in understanding how a vehicle's systems performed. The event data recorder is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less.

The event data recorder in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating.
- Whether or not the driver and passenger seatbelts were buckled/fastened.
- How far (if at all) the driver was depressing the accelerator and/or the brake pedal.
- How fast the vehicle was traveling.
- Where the driver was positioning the steering wheel.

This data can help provide a better understanding of the circumstances in which crashes and injuries occur.

# Data Privacy

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**Note:** *Event data recorder data is recorded by your vehicle only if a non-trivial crash situation occurs; no data is recorded by the event data recorder under normal driving conditions and no personal data or information (for example name, gender, age, and crash location) is recorded. However, parties, such as law enforcement, could combine the event data recorder data with the type of personally identifying data routinely acquired during a crash investigation.*

To read data recorded by an event data recorder, special equipment is required, and access to the vehicle or the event data recorder is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have such special equipment, can read the information if they have access to the vehicle or the event data recorder.

## SETTINGS DATA

Your vehicle has electronic control units that have the ability to store data based on your personalized settings. The data is stored locally in the vehicle or on devices that you connect to it, for example, a USB drive or digital music player. You can delete some of this data and also choose whether to share it through the services to which you subscribe. See **General Information** (page 84).

## Comfort and Convenience Data

Data recorded includes, for example:

- Seat and steering wheel position.
- Climate control settings.
- Radio presets.

## Entertainment Data

Data recorded includes, for example:

- Music, videos or album art.
- Contacts and corresponding address book entries.
- Navigation destinations.

## MOBILE DEVICE DATA

If you connect a mobile device to your vehicle, you can display data from your device on the touchscreen for example, music and album art. You can share your vehicle data with mobile apps on your device through the system.

The mobile apps function operates by your connected device sending data to us in the United States. The data is encrypted and includes, for example, the vehicle identification number of your vehicle, the SYNC module serial number, odometer, enabled apps, usage statistics and debugging information. We retain it only as long as necessary to provide the service, to troubleshoot, for continuous improvement and to offer you products and services that may be of interest to you according to your preferences and where allowed by law.

If you connect a cell phone to the system, the system creates a profile that links to that cell phone. The cell phone profile enables more mobile features and efficient operation. The profile contains, for example data from your phonebook, read and unread text messages and call history, including history of calls when your cell phone was not connected to the system.

If you connect a media device, the system creates and retains a media device index of supported media content. The system also records a short diagnostic log of approximately 10 minutes of all recent system activity.

# Data Privacy

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The cell phone profile, media device index and diagnostic log remain in your vehicle unless you delete them and are generally accessible only in your vehicle when you connect your cell phone or media device. If you no longer plan to use the system or your vehicle, we recommend you use the master reset function to erase the stored information.

System data cannot be accessed without special equipment and access to your vehicle's module.

For additional information about our privacy policy, refer to the local Ford website.

**Note:** *To find out if your vehicle has connectivity technology, visit [www.FordConnected.com](http://www.FordConnected.com).*

## EMERGENCY CALL SYSTEM DATA

When the emergency call system is active, it may disclose to emergency services that your vehicle has been in a crash involving the deployment of an airbag or activation of the fuel pump shut-off. Certain versions or updates to the emergency call system may also be capable of electronically or verbally disclosing to emergency services operators your vehicle location or other details about your vehicle or crash to assist emergency services operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not activate the emergency call system.

**Note:** *You cannot deactivate emergency call systems that are required by law.*

# Environment

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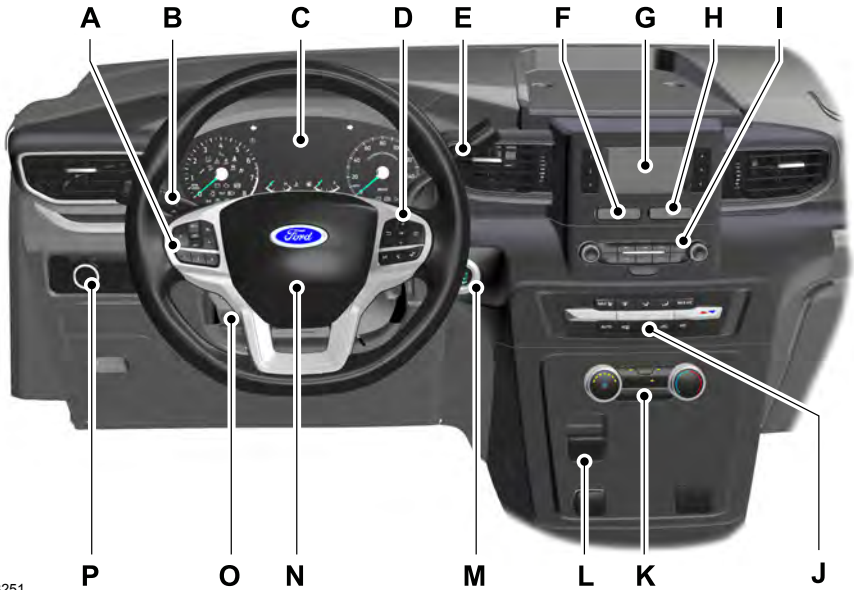
## **PROTECTING THE ENVIRONMENT**

You should play your part in protecting the environment. Correct vehicle usage and the authorized disposal of waste, cleaning and lubrication materials are significant steps toward this aim.

For additional information about our sustainability progress and initiatives, visit [www.sustainability.ford.com](http://www.sustainability.ford.com).

# At a Glance

## INSTRUMENT PANEL



E283251

- A Cruise control. See **Cruise Control** (page 66). Auxiliary control. See **Audio Control** (page 65).
- B Direction indicator. See **Direction Indicators** (page 71). Wiper lever. See **Windshield Wipers** (page 67).
- C Information display. See **General Information** (page 84).
- D Information display control. See **Information Display Control** (page 66).
- E Gearshift lever. See **Automatic Transmission** (page 142).
- F Deep sand/snow mode button. See **What Is Drive Mode Control** (page 178).
- G Information and Entertainment display.
- H Pre-collision assist disable. See **Pre-Collision Assist** (page 174). Police perimeter alert. See **Security** (page 63).
- I Audio unit. See **Audio Unit** (page 303).
- J Climate control. See **Automatic Climate Control** (page 101).

## At a Glance

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- K Rear climate control. See **Rear Passenger Climate Controls** (page 104).
- L Electric parking brake. See **Electric Parking Brake** (page 152).
- M Ignition switch. See **Ignition Switch** (page 118).
- N Horn.
- O Steering wheel adjustment. See **Adjusting the Steering Wheel** (page 65).
- P Lighting control. See **Lighting Control** (page 69). Police engine idle switch. See **Police Engine Idle Feature** (page 122). Fuel door release (Hybrid only). See **Refueling** (page 133).

# Child Safety

## GENERAL INFORMATION

See the following sections for directions on how to properly use safety restraints for children.



**WARNING:** Always make sure your child is secured properly in a device that is appropriate for their height, age and weight. Child safety restraints must be bought separately from your vehicle. Failure to follow these instructions and guidelines may result in an increased risk of serious injury or death to your child.



**WARNING:** All children are shaped differently. The National Highway Traffic Safety Administration and other safety organizations, base their recommendations for child restraints on probable child height, age and weight thresholds, or on the minimum requirements of the law. We recommend that you check with a NHTSA Certified Child Passenger Safety Technician

(CPST) to make sure that you properly install the child restraint in your vehicle and that you consult your pediatrician to make sure you have a child restraint appropriate for your child. To locate a child restraint fitting station and CPST, contact NHTSA toll free at 1-888-327-4236 or go to [www.nhtsa.dot.gov](http://www.nhtsa.dot.gov). In Canada, contact Transport Canada toll free at 1-800-333-0371 or go to [www.tc.gc.ca](http://www.tc.gc.ca) to find a Child Car Seat Clinic in your area. Failure to properly restrain children in child restraints made especially for their height, age and weight, may result in an increased risk of serious injury or death to your child.



**WARNING:** On hot days, the temperature inside the vehicle can rise very quickly. Exposure of people or animals to these high temperatures for even a short time can cause death or serious heat related injuries, including brain damage. Small children are particularly at risk.

# Child Safety

## Recommendations for Safety Restraints for Children

Child	Child Size, Height, Weight, or Age	Recommended Restraint Type
Infants or toddlers	Children weighing 40 lb (18 kg) or less (generally age four or younger).	Use a child restraint (sometimes called an infant carrier, convertible seat, or toddler seat).
Small children	Children who have outgrown or no longer properly fit in a child restraint (generally children who are less than 57 in (1.45 m) tall, are greater than age four and less than age 12, and between 40 lb (18 kg) and 80 lb (36 kg) and upward to 100 lb (45 kg) if recommended by your child restraint manufacturer).	Use a belt-positioning booster seat.
Larger children	Children who have outgrown or no longer properly fit in a belt-positioning booster seat (generally children who are at least 57 in (1.45 m) tall or greater than 80 lb (36 kg) or 100 lb (45 kg) if recommended by child restraint manufacturer).	Use a vehicle seatbelt having the lap belt snug and low across the hips, shoulder belt centered across the shoulder and chest, and seat backrest upright.

- You are required by law to properly use child restraints for infants and toddlers in the United States, Canada and Mexico.
- Many states and provinces require that small children use approved booster seats until they reach age eight, a height of 57 in (1.45 m) tall, or 80 lb (36 kg). Check your local and state or provincial laws for specific requirements about the safety of children in your vehicle.
- When possible, properly restrain children 12 years of age and under in a rear seating position of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in a front seating position. See **Front Passenger Sensing System** (page 43).
- When installing a rear facing child restraint, adjust the vehicle seats to avoid interference between the child restraint and the vehicle seat in front of the child restraint.



# Child Safety

## INSTALLING CHILD RESTRAINTS

### Child Seats



E142594

Use a child restraint (sometimes called an infant carrier, convertible seat, or toddler seat) for infants, toddlers or children weighing 40 lb (18 kg) or less (generally age four or younger).

### Using Lap and Shoulder Belts



**WARNING:** Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.



**WARNING:** Properly secure children 12 years old and under in a rear seating position whenever possible. If you are unable to properly secure all children in a rear seating position, properly secure the largest child on the front seat. If you must use a forward facing child restraint on the front seat, move the seat as far back as possible. Failure to follow these instructions could result in personal injury or death.



**WARNING:** Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain seatbelt buckle assemblies and LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, make sure occupants only use seating positions where they are able to be properly restrained.

When installing a child restraint with combination lap and shoulder belts:

- Use the correct seatbelt buckle for that seating position.
- Insert the belt tongue into the proper buckle until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.
- Keep the buckle release button pointing up and away from the child restraint, with the tongue between the child restraint and the release button, to prevent accidental unbuckling.
- Place the vehicle seat in the upright position before you install the child restraint.
- For second-row seating positions, adjust the recliner slightly to improve child restraint fit. If needed, remove the head restraints.
- Put the seatbelt in the automatic locking mode. See Step 5. This vehicle does not require the use of a locking clip.

Perform the following steps when installing the child restraint with combination lap and shoulder belts:

**Note:** *Although the child restraint illustrated is a forward facing child restraint, the steps are the same for installing a rear facing child restraint.*

# Child Safety

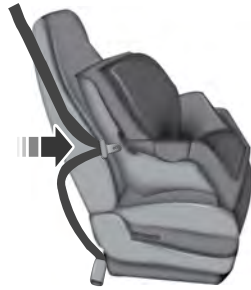
**Note:** Follow all instructions provided by the manufacturer of the child restraint regarding the necessary and proper use of the Lock-off device. In some instances these devices have been provided only for use in vehicles with seatbelt systems that would otherwise require a locking clip. This vehicle does not require the use of a locking clip.



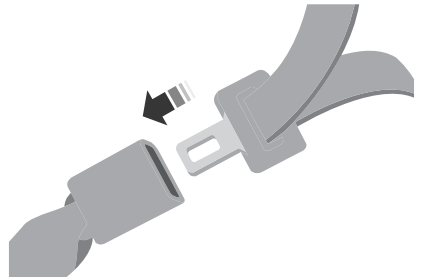
1. Position the child restraint in a seat with a combination lap and shoulder belt.



2. After positioning the child restraint in the proper seating position, pull down on the shoulder belt and then grasp the shoulder belt and lap belt together behind the belt tongue.



3. While holding the shoulder and lap belt portions together, route the tongue through the child restraint according to the child restraint manufacturer's instructions. Make sure you do not twist the belt webbing.



4. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a snap and feel the latch engage. Make sure you securely latch the tongue by pulling on it.

# Child Safety



to remove the remaining slack that exists once you add the extra weight of the child to the child restraint. It also helps to achieve the proper snugness of the child restraint to your vehicle. Sometimes, a slight lean toward the buckle provides extra help to remove remaining slack from the belt.

9. Attach the tether strap (if the child restraint is equipped). See **Using Tether Straps** later in this chapter.



5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until all of the belt is pulled out.
6. Allow the belt to retract to remove slack. The belt will click as it retracts to indicate it is in the automatic locking mode.
7. Try to pull the belt out of the retractor to make sure the retractor is in the automatic locking mode. You should not be able to pull more belt out. If the retractor did not lock, unbuckle the belt and repeat Steps 5 and 6.

10. Before placing the child in the seat, forcibly move the seat forward and back to make sure you have the seat securely held in place. To check this, grab the seat at the belt path and attempt to move it side to side and forward and back. There should be no more than 1 in (2.5 cm) of movement for proper installation.



8. Remove remaining slack from the belt. Force the seat down with extra weight, for example, by pressing down or kneeling on the child restraint as you pull up on the shoulder belt to force slack from the belt. This is necessary

We recommend checking with a NHTSA Certified Child Passenger Safety Technician to make certain the child restraint is properly installed. In Canada, check with Transport Canada for referral to a Child Car Seat Clinic.

# Child Safety

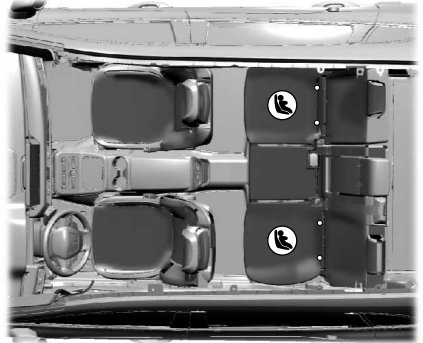
## Using Lower Anchors and Tethers for Children (LATCH)

**WARNING:** Do not attach two child safety restraints to the same anchor. In a crash, one anchor may not be strong enough to hold two child safety restraint attachments and may break, causing serious injury or death.

**WARNING:** Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain seatbelt buckle assemblies and LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, make sure occupants only use seating positions where they are able to be properly restrained.

The LATCH system has three vehicle anchor points: two lower anchors where the seat backrest and seat cushion meet (called the seat bight) and one top tether anchor behind that seating position.

LATCH compatible child restraints have two rigid or webbing mounted attachments that connect to the two lower anchors at the LATCH equipped seating positions in your vehicle. This type of attachment method eliminates the need to use seatbelts to attach the child restraint. However, you can still use the seatbelt to attach the child restraint. For forward-facing child restraints, you must also attach the top tether strap to the proper top tether anchor if one came with your child restraint.



Your vehicle has LATCH lower anchors for child restraint installation at the seating positions marked with the child restraint symbol.



E144054

The LATCH anchors are at the rear section of the rear seat between the cushion and seat backrest below the symbols as shown. Follow the child restraint manufacturer's instructions to properly install a child restraint with LATCH attachments.

Follow the instructions on attaching child restraints with tether straps. See **Using Tether Straps** later in this chapter.

Attach LATCH lower attachments of the child restraint only to the anchors shown.

# Child Safety

## Use of Inboard Lower Anchors from the Outermost Seating Positions (Center Seating Use)



**WARNING:** The standardized spacing for LATCH lower anchors is 11 in (280 mm) center to center. Do not use LATCH lower anchors for the center seating position unless the child restraint manufacturer's instructions permit and specify using anchors spaced at least as far apart as those in this vehicle.

The lower anchors at the center of the second row bench seat are spaced 20.5 in (52 cm) apart. The standardized spacing for LATCH lower anchors is 11 in (28 cm) center to center. You cannot install a child restraint with rigid LATCH attachments at the center seating position. You can only use LATCH compatible child restraints with attachments on belt webbing at this seating position provided that the child restraint manufacturer's instructions permit use with the anchor spacing stated. Do not attach a child restraint to any lower anchor if an adjacent child restraint is attached to that anchor.

Each time you use the child restraint, check that you properly attach the seat to the lower anchors and tether anchor, if applicable. Tug the child restraint from side to side and forward and back where you secured it to your vehicle. The seat should move less than 1 in (2.5 cm) when you do this for a proper installation.

If the child restraint is not anchored properly, the risk of injury to a child greatly increases in a crash.

## Combining Seatbelt and LATCH Lower Anchors for Attaching Child Restraints

When used in combination, you can attach either the seatbelt or the LATCH lower anchors first, provided a proper installation is achieved. Attach the tether strap afterward, if included with the child restraint.

## Using Tether Straps



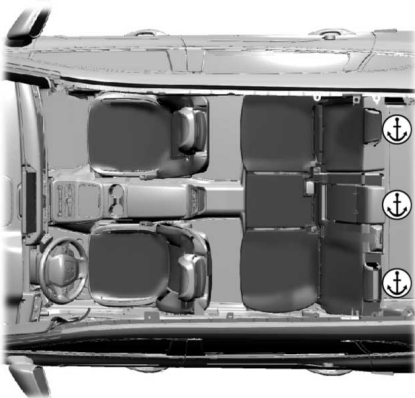
Many forward-facing child restraints include a tether strap which extends from the back of the child restraint and hooks to an anchoring point called the top tether anchor. Tether straps are available as an accessory for many older child restraints.

Contact the manufacturer of your child restraint for information about ordering a tether strap, or to obtain a longer tether strap if the tether strap on your child restraint does not reach the appropriate top tether anchor in your vehicle.

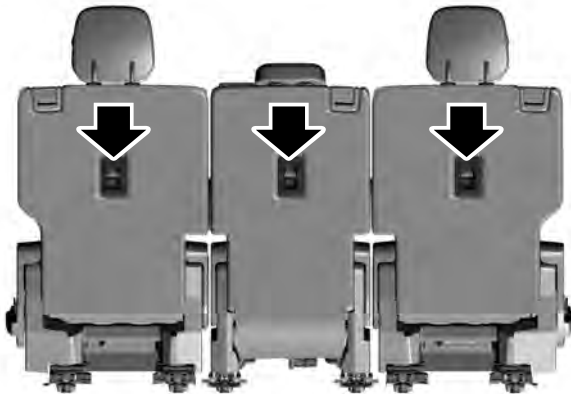
Once you install the child restraint using either the seatbelt, the lower anchors of the LATCH system, or both, you can attach the top tether strap.

# Child Safety

The tether strap anchors in your vehicle are in the following positions (shown from top view).



**Note:** If you install a child restraint with rigid LATCH attachments, do not tighten the tether strap enough to lift the child restraint off your vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child restraint. Keeping the child restraint just touching your vehicle seat gives the best protection in a severe crash.



E251593

Perform the following steps to install a child restraint with tether anchors.

1. Route the child restraint tether strap over the seat backrest.

# Child Safety



E190833

2. Locate the correct anchor for the selected seating position.
3. Clip the tether strap to the anchor as shown. The tether hook may be twisted  $\frac{1}{2}$  turn to improve installation. If the tether strap is clipped incorrectly, the child restraint may not be retained properly in the event of a crash.
4. Tighten the child restraint tether strap according to the manufacturer's instructions.

If the child restraint is not properly anchored, the risk of injury to a child greatly increases in a crash.

If your child restraint system has a tether strap, and the child restraint manufacturer recommends its use, we also recommend its use.

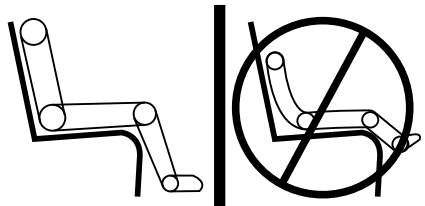
## BOOSTER SEATS



**WARNING:** Do not put the shoulder section of the seatbelt or allow the child to put the shoulder section of the seatbelt under their arm or behind their back. Failure to follow this instruction could reduce the effectiveness of the seatbelt and increase the risk of injury or death in a crash.

Use a belt-positioning booster seat for children who have outgrown or no longer properly fit in a child safety restraint (generally children who are less than 57 in (1.45 m) tall, are greater than age 4 and less than age 12, and between 40 lb (18 kg) and 80 lb (36 kg) and upward to 100 lb (45 kg) if recommended by your child restraint manufacturer). Many state and provincial laws require that children use approved booster seats until they reach age eight, a height of 57 in (1.45 m) tall, or 80 lb (36 kg).

Booster seats should be used until you can answer YES to ALL of these questions when seated without a booster seat:



- Can the child sit all the way back against their vehicle seat backrest with knees bent comfortably at the edge of the seat cushion?
- Can the child sit without slouching?
- Does the lap belt rest low across the hips?
- Is the shoulder belt centered on the shoulder and chest?
- Can the child stay seated like this for the whole trip?

Always use booster seats in conjunction with your vehicle lap and shoulder belt.

# Child Safety

## Types of Booster Seats



- Backless booster seats

If your backless booster seat has a removable shield, remove the shield. If a vehicle seating position has a low seat backrest or no head restraint, a backless booster seat may place your child's head (as measured at the tops of the ears) above the top of the seat. In this case, move the backless booster to another seating position with a higher seat backrest or head restraint and lap and shoulder belts, or consider using a high back booster seat.

- High back booster seats

If, with a backless booster seat, you cannot find a seating position that adequately supports your child's head, a high back booster seat would be a better choice.

Children and booster seats vary in size and shape. Choose a booster that keeps the lap belt low and snug across the hips, never up across the stomach, and lets you adjust the shoulder belt to cross the chest and rest snugly near the center of the shoulder. The following drawings compare the ideal fit (center) to a shoulder belt uncomfortably close to the neck and a shoulder belt that could slip off the shoulder. The drawings also show how the lap belt should be low and snug across the child's hips.





# Child Safety



If the booster seat slides on the vehicle seat upon which it is being used, placing a rubberized mesh sold as shelf or carpet liner under the booster seat may improve this condition. Do not introduce any item thicker than this under the booster seat. Check with the booster seat manufacturer's instructions.

## CHILD RESTRAINT POSITIONING

**WARNING:** Do not place a rearward facing child restraint in front of an active airbag. Failure to follow this instruction could result in personal injury or death.

**WARNING:** Properly secure children 12 years old and under in a rear seating position whenever possible. If you are unable to properly secure all children in a rear seating position, properly secure the largest child on the front seat. If you must use a forward facing child restraint on the front seat, move the seat as far back as possible. Failure to follow these instructions could result in personal injury or death.

**WARNING:** Always carefully follow the instructions and warnings provided by the manufacturer of any child restraint to determine if the restraint device is appropriate for your child's size, height, weight, or age. Follow the child restraint manufacturer's instructions and warnings provided for installation and use in conjunction with the instructions and warnings provided by your vehicle manufacturer. A safety seat that is improperly installed or utilized, is inappropriate for your child's height, age, or weight or does not properly fit the child may increase the risk of serious injury or death.

**WARNING:** Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.

**WARNING:** Do not use pillows, books or towels to boost your child's height. Failure to follow this instruction could result in personal injury or death.

# Child Safety



**WARNING:** Properly secure child restraints or booster seats when they are not in use. They could become projectiles in a sudden stop or crash. Failure to follow this instruction could result in personal injury or death.



**WARNING:** Do not put the shoulder section of the seatbelt or allow the child to put the shoulder section of the seatbelt under their arm or behind their back. Failure to follow this instruction could reduce the effectiveness of the seatbelt and increase the risk of injury or death in a crash.



**WARNING:** Do not leave children or pets unattended in your vehicle. Failure to follow this instruction could result in personal injury or death.

## Recommendations for Attaching Child Safety Restraints for Children

Restraint Type	Combined Weight of Child and Child Restraint	Use Any Attachment Method as Indicated Below by X				
		LATCH (Lower Anchors and Top Tether Anchor)	LATCH (Lower Anchors Only)	Seatbelt and Top Tether Anchor	Seatbelt and LATCH (Lower Anchors and Top Tether Anchor)	Seatbelt Only
Rear facing child restraint	Up to 65 lb (29.5 kg)		X			X
Rear facing child restraint	Over 65 lb (29.5 kg)					X
Forward facing child restraint	Up to 65 lb (29.5 kg)	X		X	X	
Forward facing child restraint	Over 65 lb (29.5 kg)			X	X	

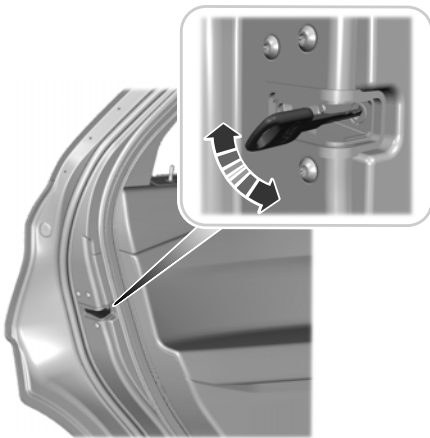
# Child Safety

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**Note:** *The child restraint must rest tightly against the vehicle seat upon which it is installed. It may be necessary to lift or remove the head restraint. See **Seats** (page 107).*

## CHILD SAFETY LOCKS

When these locks are set, you cannot open the rear doors from the inside.



A child safety lock is on the rear edge of each rear door. You must set the child safety lock separately on each door.

### Left-Hand Side

Turn the key clockwise to switch the child lock on and counter clockwise to switch it off.

### Right-Hand Side

Turn the key counter clockwise to switch the child lock on and clockwise to switch it off.

# Seatbelts

## PRINCIPLE OF OPERATION



**WARNING:** Always drive and ride with your seatback upright and the lap belt snug and low across the hips.



**WARNING:** Children must always be properly restrained.



**WARNING:** Do not allow a passenger to hold a child on their lap when your vehicle is moving. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.



**WARNING:** All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.



**WARNING:** It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.



**WARNING:** In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seatbelt.



**WARNING:** Each seating position in your vehicle has a specific seatbelt assembly made up of one buckle and one tongue designed to be used as a pair. Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never use a single seatbelt for more than one person.



**WARNING:** Even with advanced restraints systems, properly restrain children 12 and under in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.



**WARNING:** Seatbelts and seats may be hot in a vehicle that is in the sunshine. The hot seatbelts or seats may burn a small child. Check seat covers and buckles before you place a child anywhere near them.

All seating positions in your vehicle have lap and shoulder seatbelts. All occupants of the vehicle should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided.

The seatbelt system consists of:

- Lap and shoulder seatbelts.
- Shoulder seatbelt with automatic locking mode, (except driver seatbelt).
- Height adjuster at the front outermost seating positions.
- Seatbelt pretensioners at the front outermost and second row outermost seating positions.
- Belt tension sensor at the front outermost passenger seating position.



- Seatbelt warning light and chime.

# Seatbelts



- Crash sensors and monitoring system with readiness indicator.

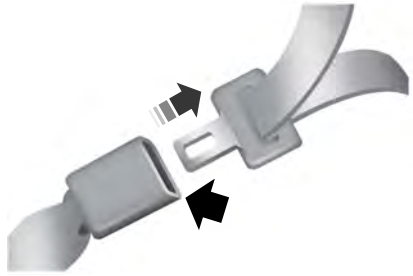
The seatbelt pretensioners are designed to tighten the seatbelts when activated. In frontal and near-frontal crashes, the seatbelt pretensioners may be activated alone or, if the crash is of sufficient severity, together with the front airbags. The pretensioners may also activate when a Safety Canopy airbag deploys.

## FASTENING THE SEATBELTS

The front outboard and rear safety restraints in the vehicle are combination lap and shoulder belts.



1. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) until you hear a snap and feel it latch. Make sure that you securely fasten the tongue in the buckle.

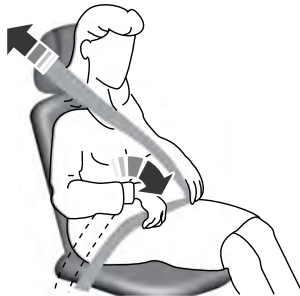


2. To unfasten, press the release button and remove the tongue from the buckle.

## Using Seatbelts During Pregnancy



**WARNING:** Always ride and drive with your seatback upright and properly fasten your seatbelt. Fit the lap portion of the seatbelt snugly and low across the hips. Position the shoulder portion of the seatbelt across your chest. Pregnant women must follow this practice. See the following figure.



# Seatbelts

Pregnant women should always wear their seatbelt. Position the lap belt portion of a combination lap and shoulder belt low across the hips below the belly and worn as tight as comfort allows. Position the shoulder belt to cross the middle of the shoulder and the center of the chest.

## Seatbelt Locking Modes



**WARNING:** If your vehicle is involved in a crash, have the seatbelts and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

All safety restraints in the vehicle are combination lap and shoulder belts. The driver seatbelt has the first type of locking mode, and the front outboard passenger and rear seat seatbelts have both types of locking modes described as follows:

### Vehicle Sensitive Mode

This is the normal retractor mode, which allows free shoulder belt length adjustment to your movements and locking in response to vehicle movement. For example, if the driver brakes suddenly or turns a corner sharply, or the vehicle receives an impact of about 5 mph (8 km/h) or more, the combination seatbelts lock to help reduce forward movement of the driver and passengers.

In addition, the design of the retractor is to lock if you pull the webbing out too quickly. If the seatbelt retractor locks, slowly lower the height adjuster to allow the seatbelt to retract. If the retractor does not unlock, pull the seatbelt out slowly then feed a

small length of webbing back toward the stowed position. For rear seatbelts, recline the rear seat backrest or push the seat backrest cushion away from the seatbelt. Feed a small length of webbing back toward the stowed position.

### Automatic Locking Mode

In this mode, the shoulder belt automatically pre-locks. The belt retracts to remove any slack in the shoulder belt. The automatic locking mode is not available on the driver seatbelt.

### When to Use the Automatic Locking Mode

Use this mode any time you install a child safety seat, except a booster, in passenger front or rear seating positions. Properly restrain children 12 years old and under in a rear seating position whenever possible. See **Child Safety** (page 20).

### How to Use the Automatic Locking Mode



1. Buckle the combination lap and shoulder belt.
2. Grasp the shoulder portion and pull downward until you pull the entire belt out. Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates the seatbelt is now in the automatic locking mode.

# Seatbelts

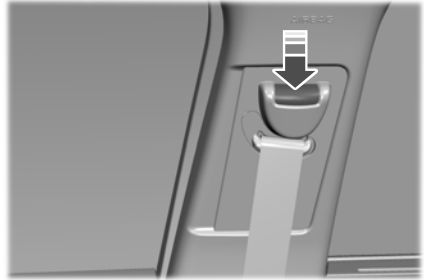
## How to Disengage the Automatic Locking Mode

Unbuckle the combination lap and shoulder belt and allow it to retract completely to disengage the automatic locking mode and turn on the vehicle sensitive (emergency) locking mode.

## SEATBELT HEIGHT ADJUSTMENT



**WARNING:** Position the seatbelt height adjuster so that the seatbelt rests across the middle of your shoulder. Failure to adjust the seatbelt correctly could reduce its effectiveness and increase the risk of injury in a crash.



1. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.
2. Slide the adjuster up to raise the belt. Press the button and slide it down to lower the belt.

## SEATBELT WARNING LAMP AND INDICATOR CHIME



This lamp illuminates and an indicator chime will sound if the driver seatbelt has not been fastened when the vehicle's ignition is turned on.

## Conditions of operation

If	Then
The driver seatbelt is not buckled before the ignition switch is turned to the on position...	The seatbelt warning lamp illuminates and the indicator chime sounds for a few seconds.
The driver seatbelt is buckled while the warning lamp is illuminated and the indicator chime is sounding...	The seatbelt warning lamp and indicator chime turn off.
The driver seatbelt is buckled before the ignition switch is turned to the on position...	The seatbelt warning lamp and indicator chime remain off.

# Seatbelts

## SEATBELT REMINDER



**WARNING:** The system will only provide protection when you use the seatbelt correctly.

This system monitors all seating positions and provides audio and graphic feedback.



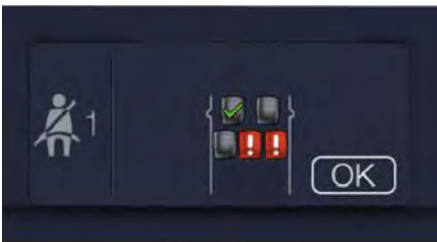
This lamp illuminates and a warning tone sounds if you do not fasten your seatbelt when you switch the ignition on. The lamp and tone turn off when you fasten your seatbelt or about one minute has elapsed.

When the initial warning expires for the driver, more warnings are provided for the driver and front passenger. This lamp illuminates and a warning tone sounds if you or your front passenger do not fasten the seatbelt buckle and the vehicle speed exceeds 6 mph (9.7 km/h). To deactivate the warning, see Deactivating and Activating the Belt-Minder Feature.

**Note:** To avoid inadvertent warnings, do not place large objects on the seat.



This lamp illuminates when you switch the ignition on, identifying the number of seating positions with fastened buckles. It illuminates again when a seating position changes from unfastened to fastened.

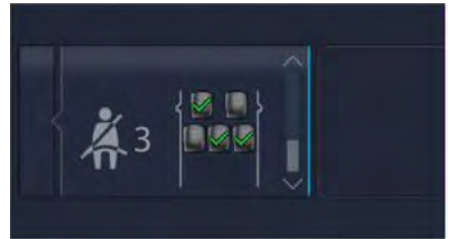


This warning displays and a tone sounds if an occupant unfastens the rear seatbelt buckle or it becomes unfastened.

**Note:** If a rear seat is unoccupied, or an occupant never fastens the seatbelt buckle to begin with, the warning will not display.

**Note:** Front seating positions appear in this warning display. Warnings for unfastened front seatbelt buckles appear in the initial warning lamp.

## Seatbelt Status



A



C



B



D

- A Seatbelt fastened.
- B Seatbelt not fastened.
- C Seatbelt recently unfastened.
- D Fault.

To view the seatbelt status, use the information display controls on the steering wheel.



# Seatbelts

## Deactivating and Activating the Seatbelt Reminder (Front Seats Only)



**WARNING:** While the system allows you to deactivate it, this system is designed to improve your chances of being safely belted and surviving an accident. We recommend you leave the system activated for yourself and others who may use the vehicle.

**Note:** *The driver and front passenger warnings switch on and off independently. When you perform this procedure for one seating position, do not buckle the other position as this terminates the process.*

Read Steps 1 - 4 before starting the procedure.

Make sure that:

- You set the parking brake.
  - The transmission is in park (P).
  - The ignition is off.
  - You close all vehicle doors.
  - You unbuckle the driver and front passenger seatbelts.
1. Switch the ignition on. Do not start the engine.
  2. Wait until the seatbelt warning lamp turns off (about one minute). After Step 2, wait an additional five seconds before proceeding with Step 3. Once you start Step 3, you must complete the procedure within 60 seconds.
  3. For the seating position you are switching off, buckle then unbuckle the seatbelt three times at a moderate speed, ending in the unbuckled state. After Step 3, the seatbelt warning lamp turns on.
  4. When the seatbelt warning lamp is on, buckle then unbuckle the seatbelt. After Step 4, the seatbelt warning lamp flashes for confirmation.

- This switches the feature off if it is currently on.
- This switches the feature on if it is currently off.

## CHILD RESTRAINT AND SEATBELT MAINTENANCE

Inspect the vehicle seatbelts and child safety seat systems periodically to make sure they work properly and are not damaged. Inspect the vehicle and child restraint seatbelts to make sure there are no nicks, tears or cuts. Replace if necessary. All vehicle seatbelt assemblies, including retractors, buckles, front seatbelt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seat backrest (if equipped), child safety seat LATCH and tether anchors, and attaching hardware, should be inspected after a crash. Read the child restraint manufacturer's instructions for additional inspection and maintenance information specific to the child restraint.

We recommend that all seatbelt assemblies in use in vehicles involved in a crash be replaced. However, if the crash was minor and an authorized dealer finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Seatbelt assemblies not in use during a crash should also be inspected and replaced if either damage or improper operation is noted.

Properly care for seatbelts. See **Vehicle Care** (page 238).

# Seatbelts

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## SEATBELT EXTENSIONS



**WARNING:** Persons who fit into the vehicle's seatbelt should not use an extension. Unnecessary use could result in serious personal injury in the event of a crash.



**WARNING:** Only use extensions provided free of charge by our dealers. The dealer will provide an extension designed specifically for this vehicle, model year and seating position. The use of an extension intended for another vehicle, model year or seating position may not offer you the full protection of your vehicle's seatbelt restraint system.



**WARNING:** Never use seatbelt extensions to install child restraints.



**WARNING:** Do not use a seatbelt extension with an inflatable seatbelt.



**WARNING:** Do not use extensions to change the way the seatbelt fits across the torso, over the lap or to make the seatbelt buckle easier to reach.

If, because of body size or driving position, it is not possible to properly fasten the seatbelt over your lap and shoulder, an extension that is compatible with the seatbelts is available free of charge from our dealers. Only use our seatbelt extensions made by the original equipment seatbelt manufacturer with our seatbelts. Ask your authorized dealer if your extension is compatible with your vehicle restraint system.

# Personal Safety System™

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This system provides an improved overall level of frontal crash protection to front seat occupants and is designed to help further reduce the risk of airbag-related injuries. The system analyzes different occupant conditions and crash severity before activating the appropriate safety devices to help better protect occupants in a variety of frontal crash situations.

Your vehicle's Personal Safety System consists of:


- Driver and passenger dual-stage airbag supplemental restraints.
- Front seat outermost seatbelts with pretensioners, energy management retractors and seatbelt usage sensors.
- Front passenger sensing system.
- Passenger airbag off and on indicators.
- Front crash severity sensors.
- Restraints control module with impact and safing sensors.
- Restraint system warning light and tone.
- The electrical wiring for the airbags, crash sensors, seatbelt pretensioners, front seatbelt usage sensors, front passenger sensing system and indicator lights.


## **How Does the Personal Safety System Work?**


The Personal Safety System can adapt the deployment strategy of the safety devices according to crash severity and occupant conditions. A collection of crash and occupant sensors provides information to the restraints control module. During a crash, the restraints control module may deploy the seatbelt pretensioners, one or both stages of the dual-stage airbags based on crash severity and occupant conditions.


# Supplementary Restraints System


## PRINCIPLE OF OPERATION


 **WARNING:** Airbags do not inflate slowly or gently, and the risk of injury from a deploying airbag is the greatest close to the trim covering the airbag module.


 **WARNING:** All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.


 **WARNING:** Even with advanced restraints systems, properly restrain children 12 and under in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.


 **WARNING:** Do not place your arms on the airbag cover or through the steering wheel. Failure to follow this instruction could result in personal injury.

 **WARNING:** Keep the areas in front of the airbags free from obstruction. Do not affix anything to or over the airbag covers. Objects could become projectiles during airbag deployment or in a sudden stop. Failure to follow this instruction could result in personal injury or death.

 **WARNING:** Airbags can kill or injure a child in a child restraint. Never place a rear-facing child restraint in front of an active airbag. If you must use a forward-facing child restraint in the front seat, move the seat upon which the child restraint is installed all the way back.

 **WARNING:** Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.

 **WARNING:** Several airbag system components get hot after inflation. To reduce the risk of injury, do not touch them after inflation.

 **WARNING:** If a supplementary restraint system component has deployed, it will not function again. Have the system and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

The airbags are a supplemental restraint system and are designed to work with the seatbelts to help protect the driver and right front passenger from certain upper body injuries. Airbags do not inflate slowly; there is a risk of injury from a deploying airbag.

**Note:** *You will hear a loud bang and see a cloud of harmless powdery residue if an airbag deploys. This is normal.*

The airbags inflate and deflate rapidly upon activation. After airbag deployment, it is normal to notice a smoke-like, powdery residue or smell the burnt propellant. This may consist of cornstarch, talcum powder (to lubricate the bag) or sodium compounds (for example, baking soda) that result from the combustion process that inflates the airbag. Small amounts of sodium hydroxide may be present which may irritate the skin and eyes, but none of the residue is toxic.

# Supplementary Restraints System

While the system is designed to help reduce serious injuries, contact with a deploying airbag may also cause abrasions or swelling. Temporary hearing loss is also a possibility as a result of the noise associated with a deploying airbag. Because airbags must inflate rapidly and with considerable force, there is the risk of death or serious injuries such as fractures, facial and eye injuries or internal injuries, particularly to occupants who are not properly restrained or are otherwise out of position at the time of airbag deployment. Thus, it is extremely important that occupants be properly restrained as far away from the airbag module as possible while maintaining vehicle control.

Routine maintenance of the airbags is not required.

## DRIVER AND PASSENGER AIRBAGS



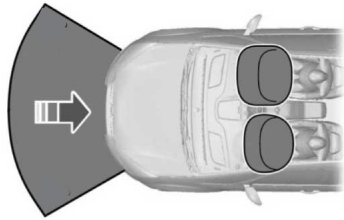
**WARNING:** Do not place your arms on the airbag cover or through the steering wheel. Failure to follow this instruction could result in personal injury.



**WARNING:** Keep the areas in front of the airbags free from obstruction. Do not affix anything to or over the airbag covers. Objects could become projectiles during airbag deployment or in a sudden stop. Failure to follow this instruction could result in personal injury or death.



**WARNING:** Airbags can kill or injure a child in a child restraint. Never place a rear-facing child restraint in front of an active airbag. If you must use a forward-facing child restraint in the front seat, move the seat upon which the child restraint is installed all the way back.



The driver and front passenger airbags will deploy during significant frontal and near frontal crashes.

The driver and passenger front airbag system consists of:

- Driver and passenger airbag modules.
- Front passenger sensing system.



• Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 47).

## Proper Driver and Front Passenger Seating Adjustment



**WARNING:** National Highway Traffic Safety Administration (NHTSA) recommends a minimum distance of at least 10 in (25 cm) between an occupant's chest and the driver airbag module.

To properly position yourself away from the airbag:

- Move your seat to the rear as far as you can while still reaching the pedals comfortably.
- Recline the seat slightly (one or two degrees) from the upright position.

# Supplementary Restraints System

After all occupants have adjusted their seats and put on seatbelts, it is very important that they continue to sit properly. A properly seated occupant sits upright, leaning against the seatback, and centered on the seat cushion, with their feet comfortably extended on the floor. Sitting improperly can increase the chance of injury in a crash event. For example, if an occupant slouches, lies down, turns sideways, sits forward, leans forward or sideways, or puts one or both feet up, the chance of injury during a crash is greatly increased.

## Children and Airbags

**WARNING:** Airbags can kill or injure a child in a child restraint. Never place a rear-facing child restraint in front of an active airbag. If you must use a forward-facing child restraint in the front seat, move the seat upon which the child restraint is installed all the way back.



Children must always be properly restrained. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position. Failure to follow these instructions may increase the risk of injury in a crash.

## FRONT PASSENGER SENSING SYSTEM

**WARNING:** Even with advanced restraints systems, properly restrain children 12 and under in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

**WARNING:** Sitting improperly, out of position or with the seatback reclined too far can take weight off the seat cushion and affect the decision of the passenger sensing system, resulting in serious injury or death in the event of a crash. Always sit upright against your seat back, with your feet on the floor.

**WARNING:** Any alteration or modification to the front passenger seat may affect the performance of the front passenger sensing system. This could seriously increase the risk of injury or death.

This system works with sensors that are part of the front passenger seat and seatbelt to detect the presence of a properly-seated occupant and determine if the front passenger frontal airbag should be enabled (may inflate) or not.



The front passenger sensing system uses a passenger airbag status indicator that illuminates indicating that the front passenger frontal airbag is either on (enabled) or off (disabled).

# Supplementary Restraints System

The indicators are on the overhead console.

**Note:** *The indicators illuminate briefly when you first switch the ignition on to confirm they are functional.*

The front passenger sensing system is designed to disable (will not inflate) the front passenger frontal airbag when the front passenger seat is unoccupied, or a rear facing infant seat, a forward-facing child restraint, or a booster seat is detected. Even with this technology, parents are **strongly** encouraged to always properly restrain children in the rear seat.

- When the front passenger sensing system disables (will not inflate) the front passenger frontal airbag, the airbag off indicator illuminates and stays lit to remind you that the front passenger frontal airbag is disabled.
- If you have installed the child restraint and the airbag off indicator illuminates, switch the vehicle off, remove the child restraint from the vehicle and reinstall the restraint according to the child restraint manufacturer's instructions.

The front passenger sensing system is designed to enable (may inflate) the front passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the front passenger seat.

- When the front passenger sensing system enables the front passenger frontal airbag (may inflate), the airbag on indicator illuminates and remains illuminated.

If a person of adult size is sitting in the front passenger seat, but the airbag off indicator is lit, it is possible that the person is not sitting properly in the seat. If this happens:

- Switch the vehicle off and ask the person to place the seat backrest in an upright position.
- Have the person sit upright in the seat, centered on the seat cushion, with the person's legs comfortably extended.
- Restart the vehicle and have the person remain in this position for about two minutes. This allows the system to detect that person and enables the passenger frontal airbag.
- If the airbag off indicator remains lit even after this, advise the person to ride in the rear seat.

Occupant	Passenger Airbag Status Indicator	Passenger Airbag
Empty	OFF: Lit	Disabled
	ON: Unlit	
Child	OFF: Lit	Disabled
	ON: Unlit	
Adult	OFF: Unlit	Enabled
	ON: Lit	

# Supplementary Restraints System

After all occupants have adjusted their seats and put on seatbelts, it is very important that they continue to sit properly. A properly seated occupant sits upright, leaning against the seat backrest, and centered on the seat cushion, with their feet comfortably extended on the floor. Sitting improperly can increase the chance of injury in a crash event. For example, if an occupant slouches, lies down, turns sideways, sits forward, leans forward or sideways, or puts one or both feet up, the chance of injury during a crash greatly increases.



Make sure the front passenger sensing system is operating properly. See **Crash Sensors and Airbag Indicator** (page 47).

Do not attempt to repair or service the system. Take your vehicle immediately to an authorized dealer.

If it is necessary to modify an advanced front airbag system to accommodate a person with disabilities, contact our Customer Relationship Center. See **Getting the Services You Need** (page 201).

## SIDE AIRBAGS



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.



**WARNING:** Accessory seat covers not released by Ford Motor Company could prevent the deployment of the airbags and increase the risk of injuries in a crash.



**WARNING:** Do not lean your head on the door. The side airbag could injure you as it deploys from the side of the seatback.



**WARNING:** Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.



**WARNING:** If a supplementary restraint system component has deployed, it will not function again. Have the system and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

The side airbags are on the outermost side of the front seat backrests. In certain sideways crashes or rollover events, the side airbags will be inflated. The airbag was designed to inflate between the door panel and occupant to further enhance the protection provided to occupants in side impact crashes.





# Supplementary Restraints System

The system consists of the following:

- A label or embossed side panel indicating that your vehicle has side airbags.
- Side airbags inside the driver and front passenger seat backrests.



Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 47).

The design and development of the side airbag system included recommended testing procedures that were developed by a group of automotive safety experts known as the Side Airbag Technical Working Group. These recommended testing procedures help reduce the risk of injuries related to the deployment of side airbags.

## DRIVER AND PASSENGER KNEE AIRBAGS

Driver and passenger knee airbags are located under or within the instrument panel. During a crash, the restraints control module may activate the driver and passenger knee airbags (individually or both) based on crash severity and respective occupant conditions. Under certain crash and occupant conditions, the driver and passenger knee airbags may deploy (individually or both) but the corresponding front airbag may not activate. As with front and side airbags, it is important to be properly seated and restrained to reduce the risk of death or serious injury.



Make sure the knee airbags are operating properly. See **Crash Sensors and Airbag Indicator** (page 47).

## SAFETY CANOPY™



**WARNING:** Do not place objects or mount equipment on or near the headliner at the siderail that may come into contact with a deploying curtain airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.



**WARNING:** Do not lean your head on the door. The curtain airbag could injure you as it deploys from the headliner.



**WARNING:** Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.



**WARNING:** All occupants of your vehicle, including the driver, should always properly wear their seatbelts, even when an airbag supplemental restraint system is provided. Failure to properly wear your seatbelt could seriously increase the risk of injury or death.



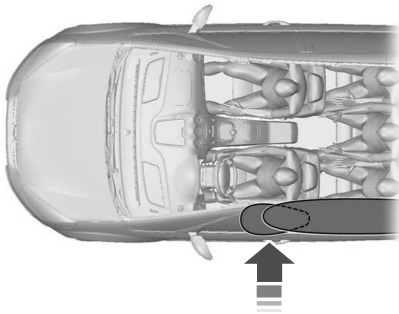
**WARNING:** To reduce risk of injury, do not obstruct or place objects in the deployment path of the airbag.



**WARNING:** If a supplementary restraint system component has deployed, it will not function again. Have the system and associated components inspected as soon as possible. Failure to follow this instruction could result in personal injury or death.

# Supplementary Restraints System

The Safety Canopy will deploy during significant side crashes or when a certain likelihood of a rollover event is detected by the rollover sensor. The Safety Canopy is mounted to the roof side-rail sheet metal, behind the headliner, above each row of seats. In certain sideways crashes or rollover events, the Safety Canopy will be activated, regardless of which seats are occupied. The Safety Canopy is designed to inflate between the side window area and occupants to further enhance protection provided in side impact crashes and rollover events.



The system consists of the following:

- Safety canopy curtain airbags above the trim panels over the front and rear side windows identified by a label or wording on the headliner or roof-pillar trim.
- A flexible headliner which opens above the side doors to allow air curtain deployment



• Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 47).

Always properly restrain children 12 years old and under in the rear seats. The Safety Canopy will not interfere with children restrained using a properly installed child or booster seat because it is designed to inflate downward from the headliner above the doors along the side window opening.

The design and development of the Safety Canopy included recommended testing procedures that were developed by a group of automotive safety experts known as the Side Airbag Technical Working Group. These recommended testing procedures help reduce the risk of injuries related to the deployment of side airbags (including the Safety Canopy).

## CRASH SENSORS AND AIRBAG INDICATOR



**WARNING:** Modifying or adding equipment to the front end of your vehicle (including hood, bumper system, frame, front end body structure, tow hooks and hood pins) may affect the performance of the airbag system, increasing the risk of injury. Do not modify or add equipment to the front end of your vehicle.

Your vehicle has a collection of crash and occupant sensors which provide information to the restraints control module. The restraints control module deploys (activates) the seatbelt pretensioners, driver airbag, passenger airbag, knee airbag(s), seat mounted side airbags and the Safety Canopy. Based on the type of crash, the restraints control module will deploy the appropriate safety devices.

# Supplementary Restraints System

The restraints control module also monitors the readiness of the above safety devices plus the crash and occupant sensors. The readiness of the safety system is indicated by a warning indicator light in the instrument cluster or by a backup tone if the warning light is not working. Routine maintenance of the airbag is not required.

A difficulty with the system is indicated by one or more of the following:

- The readiness light either flashes or stays lit.
- A series of five beeps will be heard. The tone pattern repeats periodically until the problem, the light or both are repaired.



- The readiness light will not illuminate immediately after you switch the ignition on.

If any of these things happen, even intermittently, have the supplemental restraint system serviced at an authorized dealer immediately. Unless serviced, the system may not function properly in the event of a crash.

The seatbelt pretensioners and the airbag supplemental restraint system are designed to activate when the vehicle sustains frontal or sideways deceleration sufficient to cause the restraints control module to deploy a safety device or when a certain likelihood of a rollover event is detected by the rollover sensor.

The fact that the seatbelt pretensioners or airbags did not activate for both front seat occupants in a crash does not mean that something is wrong with the system. Rather, it means the restraints control module determined the accident conditions (crash severity, belt usage) were not appropriate to activate these safety devices.

- The design of the front airbags is to activate only in frontal and near-frontal crashes (not rollovers, side impacts or rear impacts) unless the crash causes sufficient frontal deceleration.
- The design of the seatbelt pretensioners is to activate in frontal, near-frontal and side crashes and in rollovers.
- The design of the side airbags is to inflate in certain side impact crashes and in rollovers. Side airbags may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation.
- The knee airbag(s) may deploy based on crash severity and occupant conditions.
- The design of the Safety Canopy is to inflate in certain side impact crashes or rollover events. The Safety Canopy may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation, or a certain likelihood of rollover.

## Airbags and Police Equipment



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.

# Supplementary Restraints System



**WARNING:** Keep the areas in front of the airbags free from obstruction. Do not affix anything to or over the airbag covers. Objects could become projectiles during airbag deployment. Failure to follow this instruction could result in personal injury or death.

Dual driver and passenger airbags, side airbags and knee airbags affect the way police equipment can be mounted in police vehicles.

Any surfaces that could come into contact with an airbag, once it has deployed, must not damage the airbag or alter its deployment path.

Once the airbag has fully deployed, any peripheral equipment surfaces that could come into contact with the airbag (such as when the airbag deflates with the loading of an occupant) must not damage the airbag or alter its deployment path. Sharp edges, corners or protrusions could damage the nylon airbag material and reduce the effectiveness of the airbag.

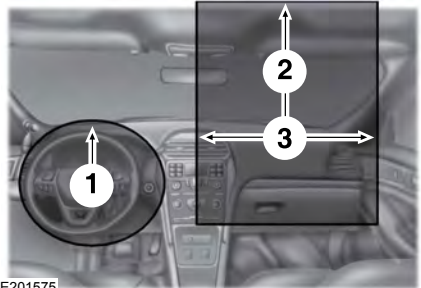
Some approximate dimensions for airbags, at full inflation, are provided. These dimensions are somewhat flexible and represent free form deployments without the loading of occupants. The shaded areas in Figures 8 through 10 represent available police equipment mounting zones. These zones are shown for police vehicles with standard bucket seats. The zone dimensions provided in Figures 8 through 10 are approximate and will vary with the loading of occupants in the seats.

All airbag and equipment mounting zone dimensions are approximate due to different airbag deployment characteristics.

Do not mount equipment between the side of the front seat and the door trim that will block deployment of the side airbag.

Do not mount equipment between the seats and the body side as shown in Figure 7 that would prevent the side curtain airbag from achieving occupant coverage.

**Figure 1 (Driver and Passenger Airbag Dimensions)**

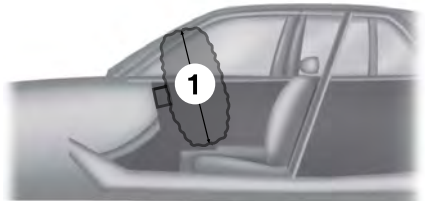


E201575

1. 9.5 in (240 mm) from center of emblem.
2. 13.8 in (350 mm) from center of airbag door.
3. 28.3 in (720 mm).

**Note:** No objects should be placed between the airbags due to airbag variability.

**Figure 2 (Side View of Driver Airbag at Full Inflation)**

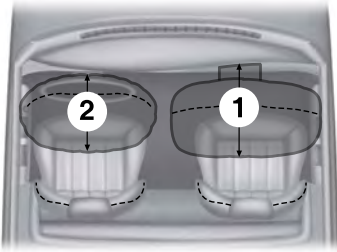


E201576

1. 27.5 in (700 mm).

# Supplementary Restraints System

**Figure 3 (Top View of Driver and Passenger Airbags at Full Inflation)**

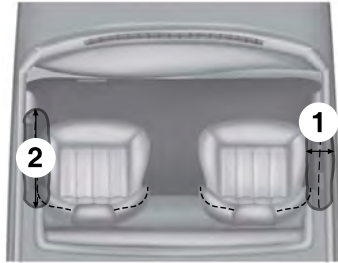


E201577

1. Front passenger airbag - 22.8 in (580 mm).
2. Front driver airbag - 17 in (430 mm).

**Note:** No objects should be placed between the driver side steering wheel airbag and the passenger side dash airbag.

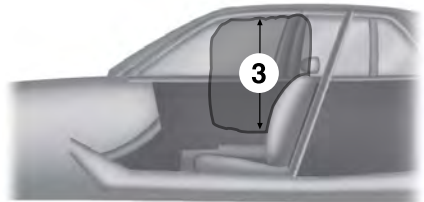
**Figure 4 (Top View of Side Airbags at Full Inflation-If equipped)**



E201578

1. From outermost side of seat - 8 in (200 mm).
2. Forward of seat backrest - 15 in (380 mm).

**Figure 5 (Side View of Side Airbag at Full Inflation-If equipped)**

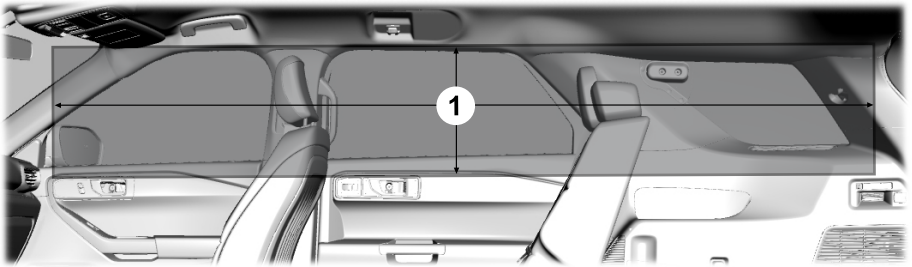


E201579

3. Up from side airbag module - 27.5 in (700 mm).

# Supplementary Restraints System

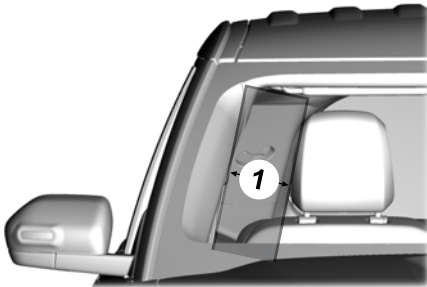
**Figure 6 (Side View of Side Curtain Dimension)**



1. Roof rail to 1 in (25mm) below window sill.

**Note:** No objects should be placed on the headliner or pillar trims (A through D) used to conceal the airbag when stowed.

**Figure 7 (Front View of Side Curtain at Full Inflation)**



1. 6 in (75mm) from pillar trim (A through D).

**Figure 8 (Equipment Mounting Zones)**

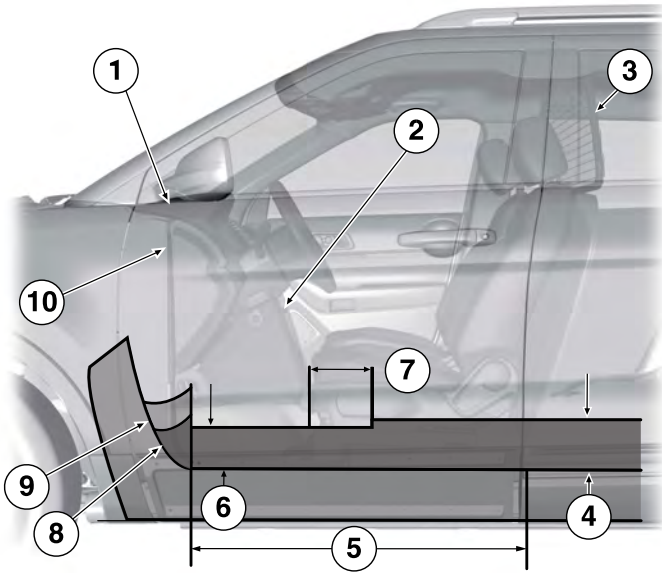


E201581

1. Area on top of the instrument panel (**Note:** Equipment must not interfere with driver visibility).
2. Airbag door must be kept clear for deployment of the airbag.
3. Area in front of the center console from the bottom to the top of the instrument panel.
4. Area in front of electronic finish panel from the bottom to the top of the instrument panel.

# Supplementary Restraints System

**Figure 9 (Equipment Mounting Zones)**



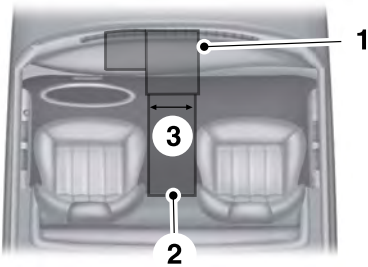
E206315

1. Area on top of instrument panel.
2. Area in front of center console from tunnel up to instrument panel.
3. Prisoner screen (reference only).
4. 10 in (254 mm).
5. Area on tunnel between seats.
6. Height: 8.5 in (216 mm).
7. 12 in (305 mm).
8. Area on tunnel beneath center console.
9. Tunnel.
10. Depth: 1.5 in (38 mm).

# Supplementary Restraints System

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**Figure 10 (Top View of Equipment Mounting Zones)**



E201583

1. Area on top of the instrument panel. **Note:** Equipment must not interfere with driver visibility.
2. Area on tunnel between seats.
3. 9 in (229 mm).

## AIRBAG DISPOSAL

Contact your authorized dealer as soon as possible. Airbags must be disposed of by qualified personnel.



# **Pedestrian Protection - Hybrid Electric Vehicle (HEV)**

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## **PEDESTRIAN ALERT SYSTEM**

Due to the quiet operation of hybrid and electric vehicles at low speeds, the system creates a subtle sound to alert pedestrians.

The system is on when your vehicle is running and not in park (P). Some sound may be audible in the passenger compartment.

# Keys and Remote Controls

## GENERAL INFORMATION ON RADIO FREQUENCIES

This device complies with Part 15 of the FCC Rules and with Licence exempt RSS Standards of Industry Canada. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

The typical operating range for your transmitter is approximately 33 ft (10 m). Vehicles with the remote start feature will have a greater range. One of the following could cause a decrease in operating range:

- Weather conditions.
- Nearby radio towers.
- Structures around the vehicle.
- Other vehicles parked next to your vehicle.

Other short distance radio transmissions, for example amateur radios, medical equipment, wireless headphones, remote controls and alarm systems can also use the radio frequency used by your remote control. If the frequencies are jammed, you will not be able to use your remote control. You can lock and unlock the doors with the key.

**Note:** Make sure to lock your vehicle before leaving it unattended.

**Note:** If you are in range, the remote control will operate if you press any button unintentionally.

**Note:** The remote control contains sensitive electrical components. Exposure to moisture or impact may cause permanent damage.

## REMOTE CONTROL (IF EQUIPPED)

**Note:** If there is a problem with the remote entry system, make sure to take all remote controls with you to an authorized dealer in order to aid in troubleshooting the problem.

### Type 1



# Keys and Remote Controls

## Type 2



E218100

### Changing the Remote Control Battery

The remote control uses one coin-type three-volt lithium battery CR2032 or equivalent.



Make sure you dispose of old batteries in an environmentally friendly way. Seek advice from local authorities about recycling old batteries.



E203601

1. Twist a thin coin in the slot of the remote control near the key ring to remove the battery cover.

**Note:** Do not remove the rubber cover and circuit board from the front housing of the remote control.

**Note:** Do not wipe off any grease on the battery terminals or on the back surface of the circuit board.

2. Remove the old battery.
3. Insert the new battery. Refer to the symbols inside the remote control for the correct orientation of the battery. Press the battery down to make sure it is fully seated in the housing.
4. Reinstall the battery housing cover onto the remote control.

**Note:** Replacing the battery does not erase the programmed key from your vehicle. The remote control should operate normally.

# Keys and Remote Controls

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## Sounding the Panic Alarm (If Equipped)



On Type 1, press the button to sound the panic alarm. Press the button again or switch the ignition on to turn it off.

**Note:** *The panic alarm operates regardless of the ignition position.*

## Opening the Liftgate With the Liftgate Button (If Equipped)



On Type 2, press the button to unlock the liftgate. The liftgate unlocks for 45 seconds, during which time you can open the liftgate using the exterior liftgate release button. See **Manual Liftgate** (page 61).

**Note:** *Only the liftgate unlocks. All other passenger doors remain in the previous locking state.*

**Note:** *If you do not open the liftgate within 45 seconds of unlocking it, the liftgate locks again. Press the button on the remote control or use the key blade inserted into the liftgate lock cylinder to unlock the liftgate again.*

**Note:** *The liftgate does not unlock when you unlock all the doors using the remote control or power door lock control, unless you use the global unlock feature which, overrides the 45-second timer.*

## REPLACING A LOST KEY OR REMOTE CONTROL

Replacement keys or remote controls can be purchased from an authorized dealer. Authorized dealers can program remote controls for your vehicle.

# Doors and Locks

## LOCKING AND UNLOCKING

Use the key blade, power door lock control or the remote control to lock and unlock your vehicle.

**Note:** Do not use the door latch assembly to attach any accessory, such as handles or steps, as this can cause damage to your vehicle.

### Locking and Unlocking the Doors with the Key Blade

#### Locking with the Key

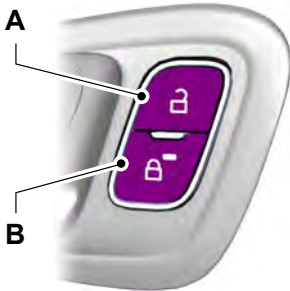
Turn the top of the key toward the front of your vehicle.

#### Unlocking with the Key

Turn the top of the key toward the rear of your vehicle.

#### Power Door Locks (If Equipped)

The power door lock control is on the driver and front passenger door panels.

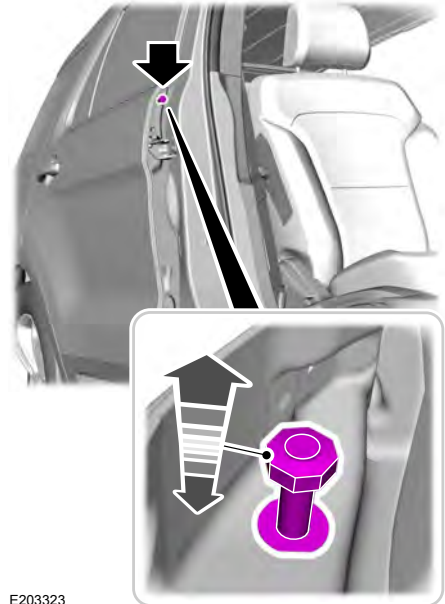


E184784

- A Unlock.
- B Lock.

## Hidden Rear Door Locks (If Equipped)

Manually lock or unlock the rear doors using the hidden lock knob on the inside front edge of the rear doors.



E203323

Open the front doors to access the lock knob. Pull the knob to unlock and push the knob to lock.

### Opening a Rear Door from the Inside

Pull the interior door handle twice to unlock and open a rear door. The first pull unlocks the door and the second pull opens the door.

**Note:** The rear doors do not open using the interior door handles if your vehicle has the rear door lock disable feature, or with the child locks enabled.

# Doors and Locks

## Remote Control (If Equipped)

You can use the remote control at any time.

### Unlocking the Doors



Press the button to unlock the driver door.

Press the button again within three seconds to unlock all doors.

Press and hold both the lock and unlock buttons on the remote control for three seconds to change between driver door or all doors unlock mode. Driver door mode only unlocks the driver door when you press the unlock button once. The unlocking mode applies to the remote control.

### Locking the Doors



Press the button to lock all doors.

## Independent Liftgate Unlocking Feature (If Equipped)

This feature allows you to unlock the liftgate independent of the other doors.

### Unlocking

The liftgate unlocks when you press the liftgate release button on the overhead console with the ignition on.

### Liftgate Timed Release (If Equipped)

Switch the ignition to the run, start or accessory position.



Press the liftgate release button on the overhead console.

**Note:** Only the liftgate unlocks. All other passenger doors remain in the previous locking state.

A warning lamp illuminates in the instrument cluster for 45 seconds. See **Warning Lamps and Indicators** (page 79). You can then open the liftgate using the exterior liftgate release button.

Once the 45 second timer expires, the lamp turns off and the liftgate no longer opens. Press the liftgate release button on the overhead console again to restart the timer.

**Note:** The liftgate does not unlock when you electronically unlock all the doors using the remote control or power door lock control, if your vehicle has this feature.

**Note:** You can also unlock the liftgate by inserting the key blade into the liftgate lock cylinder, or by pressing the liftgate release button on the remote control, if your vehicle has this feature.

### Locking

The liftgate locks when any of the following occur:

- You open and close the liftgate after you press the liftgate release button on the overhead console.
- The 45 second timer expires.

### Global Lock and Unlock

Global lock and unlock coordinates the liftgate lock state with the four doors. When switching the doors to an unlock state, open the liftgate using the exterior liftgate release button. When you switch the doors to the locked state, this locks the liftgate.

**Note:** You can also unlock the liftgate by inserting the key blade into the liftgate lock cylinder.

### Illuminated Entry (If Equipped)

The interior lamps and some exterior lamps illuminate when you unlock the doors with the remote control.

# Doors and Locks

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The lamps turn off if:

- The ignition is on.
- You press the remote control lock button.
- 25 seconds have elapsed.

The lamps do not turn off if:

- You switch them on with the lighting control.
- Any door is open.

## **Illuminated Exit (If Equipped)**

The interior lamps and some exterior lamps illuminate when all doors close and you switch the ignition off.

The lamps turn off if all the doors remain closed and:

- 25 seconds have elapsed.
- You lock your vehicle from the outside.

## **Battery Saver**

If you leave the courtesy lamps, interior lamps or headlamps on, the battery saver shuts them off 10 minutes after you switch the ignition off.

# Liftgate

## MANUAL LIFTGATE



**WARNING:** It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure everyone in your vehicle is in a seat and properly using a seatbelt. Failure to follow this warning could result in serious personal injury or death.



**WARNING:** Make sure that you fully close the liftgate to prevent exhaust fumes from entering your vehicle. If you are unable to fully close the liftgate, open the air vents or the windows to allow fresh air to enter your vehicle. Failure to follow this instruction could result in personal injury or death.

**Note:** Be careful when opening or closing the liftgate in a garage or other enclosed area to avoid damaging the liftgate.

**Note:** Do not hang anything, for example a bike rack, from the glass or liftgate. This could damage the liftgate and its components.

**Note:** Do not leave the liftgate open while driving. This could damage the liftgate and its components.

## Opening with the Outside Control Button



Press the control button to the right of the rear view camera to unlatch the liftgate and then lift to open.

## Opening with the Remote Control

(If Equipped)



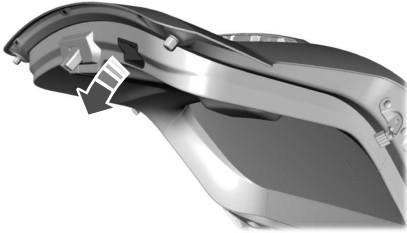
Press the button to unlock the liftgate. The liftgate unlocks for 45 seconds, during which time you can open the liftgate using the outside control button.



# Liftgate

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## Closing the Liftgate



E291353

A handle is located inside the liftgate to help with closing.

# Security

## ANTI-THEFT ALARM

### Alarm System

The perimeter alarm is a deterrent against unauthorized access to your vehicle through the doors, luggage compartment and the hood.

### Triggering the Alarm

Once armed, the alarm is triggered in any of the following ways:

- If someone opens a door, cargo area or the hood without a valid key or remote control.

If the alarm is triggered, the horn will sound for 30 seconds and the hazard warning flasher will flash for five minutes.

Any further attempts to perform one of the above will trigger the alarm again.

### Arming the Alarm

To arm the alarm, lock your vehicle. See **Doors and Locks** (page 58).

### Disarming the Alarm

Disarm and silence the alarm by unlocking the doors with the key and switching the ignition on within 12 seconds, or by unlocking the doors or the cargo area with the remote control.

### Police Perimeter Alert System (if Equipped)

**Note:** *The Police Perimeter Alert System is primarily intended to monitor moving pedestrians but also detects objects like vehicles and bikes. Fast vehicles, stationary objects and small objects like birds may also be ignored.*

**Note:** *The Police Perimeter Alert System feature does not function outside of Park (P) or with any door open.*

The system uses sensors to monitor detected objects moving near your parked vehicle.

Detected moving objects are displayed as moving dots on the systems instrument cluster display.



Once the system detects approaching objects crossing the selected range perimeter, the vehicle sounds a tone, and may roll up the windows and lock the doors.

The system may also activate the rear view camera if the display is in the Information and Entertainment screen.

### Switching the Police Perimeter Alert On and Off



# Security

While the vehicle is running and in Park (P), press and release the button located on the center of the instrument panel. Activating the feature will turn on the Police Perimeter Alert System display in the instrument cluster.

**Note:** When the feature is active an icon will display on the instrument cluster.

## Police Perimeter Alert Settings

**Note:** When the Police Idle feature is active, windows will not automatically roll up.

**Note:** When window or door locking is active, corresponding icons will display in the instrument cluster.

**Note:** When Low mode is active, window or door locking setting is not available.

The Police Perimeter Alert system has three range settings Low, Medium or High via the menu in the instrument cluster display. Use the steering wheel controls to adjust the settings when active.

## Object Detection

**Note:** A pedestrian near large obstructions such as vehicles or walls may not be detected until the person moves away from the obstruction.

**Note:** Sensor reflections from stationary objects may cause false objects to briefly appear on the Police Perimeter Alert System display.

**Note:** Sensor obstructions such as; dirt, mud, precipitation, repair compound, stickers, graphics, bumper guards, trailers, or bicycle/cargo racks - in front of the sensors can cause system sensing degradation.

The Police Perimeter Alert system uses sensors located behind the rear bumper on both sides of your vehicle. The sensors will perform best if the vehicle is parked in an open area without large obstructions or walls nearby.



## System Error

If the system senses a Police Perimeter Alert System fault, a warning message will appear in the information display. See **General Information** (page 84).

## System Configuration

See your authorized dealer for system configurations.

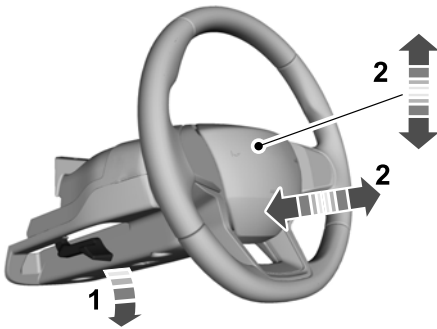
# Steering Wheel

## ADJUSTING THE STEERING WHEEL



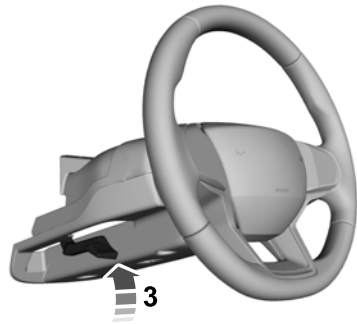
**WARNING:** Do not adjust the steering wheel when your vehicle is moving.

**Note:** Make sure that you are sitting in the correct position. See **Sitting in the Correct Position** (page 107).



E279960

1. Unlock the steering column.
2. Adjust the steering wheel to the desired position.



E279962

3. Lock the steering column.

## AUDIO CONTROL



E280795

### You can operate the following functions with the control:



Press to access phone mode or to answer a phone call.



Press to end a phone call.



Press to access the previous media selection.

# Steering Wheel



Press to access the next media selection.

## INFORMATION DISPLAY CONTROL

### Auxiliary Steering Wheel Controls



E282079

You can configure the steering wheel controls to operate police equipment.



E280795

See **Information Displays** (page 84).

### VOICE CONTROL

The controls are on the steering wheel.



Press and release to activate voice recognition.

### HORN



### CRUISE CONTROL



E282079

See **What Is Cruise Control** (page 165).

# Wipers and Washers

## WINDSHIELD WIPERS

**Note:** Fully defrost the windshield before you switch the windshield wipers on.

**Note:** Make sure you switch the windshield wipers off before entering a car wash.

**Note:** If streaks or smears appear on the windshield, clean the windshield and the wiper blades. If that does not resolve the issue, install new wiper blades.

**Note:** Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washers before wiping a dry windshield.



E208496

- Rotate away from you for long wipe interval.
- Rotate toward you for short wipe interval.

## Speed Dependent Wipers

When your vehicle speed increases, the interval between wipes decreases.

## WINDSHIELD WASHERS

**Note:** Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washer before wiping a dry windshield.

**Note:** Do not operate the washers when the washer reservoir is empty. This may cause the washer pump to overheat.



E208497

- A brief press causes a single wipe without washer fluid.
- A brief press and hold causes the wipers to swipe three times with washer fluid.
- A long press and hold turns on the wipers and washer fluid for up to 10 seconds.

A wipe occurs a few seconds after washing to clear any remaining washer fluid. You can switch this feature on or off in the information display.

## REAR WINDOW WIPER AND WASHERS

**Note:** Make sure you switch the windshield wipers off before entering a car wash.

# Wipers and Washers

---

## Rear Window Wiper Blade



E208498

- 2 Intermittent wipe.
- 1 Low speed wipe.
- 0 Off.

## Rear Window Washer

Rotate and hold the control to the top or bottom position to switch on the rear window washer. The control returns to the **2** or **0** position when you release it.

## Rear Camera Washer

Switching on the rear washer also turns on the rear camera washer.

# Lighting

## GENERAL INFORMATION

### Condensation in Lamp Assemblies

Exterior lamps have vents to accommodate normal changes in air pressure.

Condensation can be a natural by-product of this design. When moist air enters the lamp assembly through the vents, there is a possibility that condensation can occur when the temperature is cold. When normal condensation occurs, a fine mist can form on the interior of the lens. The fine mist eventually clears and exits through the vents during normal operation.

Clearing time may take as long as 48 hours under dry weather conditions.

Examples of acceptable condensation are:

- The presence of a fine mist (no streaks, drip marks or large droplets).
- A fine mist covers less than 50% of the lens.

Examples of unacceptable condensation are:

- A water puddle inside the lamp.
- Streaks, drip marks or large droplets present on the interior of the lens.

If you see any unacceptable condensation, have your vehicle checked by an authorized dealer.

### Dark Car Feature (If Equipped)

The Dark Car feature may disable the following features:

- Welcome/farewell strategy.
- Courtesy lighting.
- Daytime running lamps.

**Note:** *In markets where daytime running lamps are mandated by law, the Dark Car feature does not disable the daytime running lamps.*

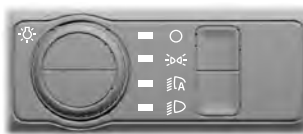
### Switching the Backlighting Off

The Dark Car feature allows you to switch the cabin backlighting off, this state can be reached by:

1. Switch the lighting control to the lamps off position.
2. Use the instrument lighting dimmer switch to lower the brightness to off.

## LIGHTING CONTROL

### Lighting Control Selections



E281337

Turn the dial to make a selection.

**Note:** *The indicator illuminates next to the active selection.*



Lamps off.



Parking lamps, instrument panel lamps, license plate lamps and rear lamps.



Autolamps.



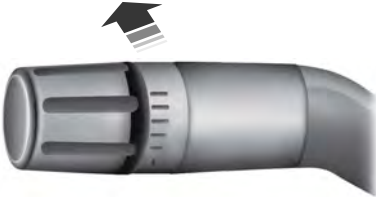
Headlamps on.

**Note:** *The lighting control defaults to the last known state every time you switch your vehicle on.*



# Lighting

## Switching High Beam Headlamps On and Off



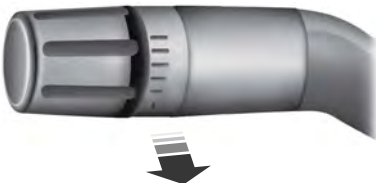
E167827



Push the lever away from you to switch the high beam on.

Push the lever forward again or pull the lever toward you to switch the high beams off.

## Flashing High Beam Headlamps



E163268

Pull the lever toward you and release it to flash the high beam headlamps.

## AUTOLAMPS



**WARNING:** The system does not relieve you of your responsibility to drive with due care and attention. You may need to override the system if it does not turn the headlamps on in low visibility conditions, for example daytime fog.

Autolamps turn the headlamps on in low light situations or when the wipers operate.



Switch the lighting control to the autolamps position.

The headlamps remain on for a period of time after you switch the ignition off. Use the information display controls to adjust the period of time that the headlamps remain on.

**Note:** *If you switch the autolamps on, you cannot switch the high beams on until the system turns the low beams on.*

## Windshield Wiper Activated Headlamps

When you switch the autolamps on, the headlamps turn on within 10 seconds of switching the wipers on. They turn off approximately 60 seconds after you switch the windshield wipers off.

The headlamps do not turn on with the wipers:

- During a single wipe.
- When using the windshield washers.
- If the wipers are in intermittent mode.

**Note:** *If you switch the autolamps and the autowipers on, the headlamps turn on when the windshield wipers continuously operate.*

# Lighting

## INSTRUMENT LIGHTING DIMMER

The instrument lighting dimmer buttons are on the lighting control.



Repeatedly press one of the buttons to adjust the brightness.



## DAYTIME RUNNING LAMPS - VEHICLES WITH: CONFIGURABLE DAYTIME RUNNING LAMPS



**WARNING:** The daytime running lamps system does not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Make sure you switch the headlamps on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.

Switch the daytime running lamps on or off using the touchscreen:

1. Select **Settings**.
2. Select **Vehicle**.
3. Select **Lighting**.

The daytime running lamps turn on when:

1. The lamps are on in the information display.
2. You switch the ignition on.
3. The transmission is not in park (P) for vehicles with automatic transmissions or you release the parking brake for vehicles with manual transmissions.

4. The lighting control is in the autolamps position.
5. The headlamps are off.

The other lighting control switch positions do not turn on the daytime running lamps.

If the daytime running lamps are off in the information display, the lamps stay off in all switch positions.

## DAYTIME RUNNING LAMPS - VEHICLES WITH: DAYTIME RUNNING LAMPS (DRL)

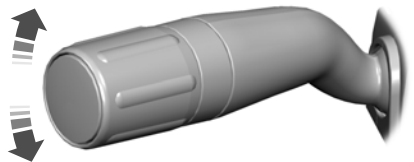


**WARNING:** The daytime running lamps system does not activate the rear lamps and may not provide adequate lighting during low visibility driving conditions. Make sure you switch the headlamps on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.

The system turns the lamps on in daylight conditions.

To switch the system on, switch the lighting control to any position except headlamps.

## DIRECTION INDICATORS



# Lighting



Push the lever up or down to use the direction indicators.

**Note:** Tap the lever up or down to make the direction indicators flash three times.

## INTERIOR LAMPS

**Note:** The Dark Car feature disables the courtesy lamps.

The lamps turn on under the following conditions:

- You open any door.
- You press a button on the remote control.
- You press the all lamps on button on the overhead console.

### Front Interior Lamp



The front interior lamp switches are on the overhead console.

### Night Vision Red Task Lamp



Press to switch the lamp on or off.

### Individual White Map Lamps



Press to switch the left-hand individual dome lamp on and off.



Press to switch the right-hand individual dome lamp on and off.

### Rear Interior Lamps



The rear interior lamps may be above the rear seat or above the rear windows.



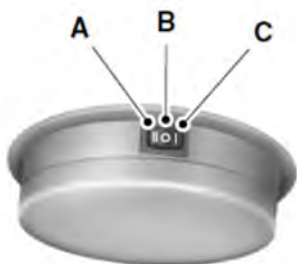
Press to switch the lamps on or off.

### Dome Task Lamp (If Equipped)

**Note:** Prolonged use of the dome task lamps causes the battery to run out of charge.

# Lighting

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E203953

- A Night vision red light on.
- B Lamp off.
- C White light on.

Your vehicle may have a red or white dome task lamp in the headliner. This lamp is at the rear of your vehicle.

# Windows and Mirrors

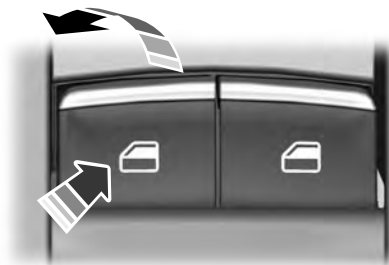
## POWER WINDOWS



**WARNING:** Do not leave children unattended in your vehicle and do not let them play with the power windows. Failure to follow this instruction could result in personal injury.



**WARNING:** When closing the power windows, verify they are free of obstruction and make sure that children and pets are not in the proximity of the window openings.



**Note:** You may hear a pulsing noise when just one of the windows is open. Lower the opposite window slightly to reduce this noise.

Press the switch to open the window.

Lift the switch to close the window.

### One-Touch Down

**Note:** One-touch down applies to the front windows only.

Press the switch fully and release it. Press again or lift it to stop the window.

### One-Touch Up

**Note:** One-touch up applies to the front windows only.

Lift the switch fully and release it. Press or lift it again to stop the window.

### Resetting One-Touch Up

Start the engine.

1. Lift and hold the window switch until you fully close the door window. Continue to hold the switch for a few seconds after you close the window.
2. Release the window switch.
3. Press and hold the window switch until you fully open the door window.
4. Release the window switch.
5. Lift and hold the window switch until you fully close the window.
6. Test for correct window operation by carrying out the one-touch down and one-touch up features.

### Bounce-Back

The window will stop automatically while closing. It reverses some distance if there is an obstacle in the way.

### Overriding the Bounce-Back Feature



**WARNING:** If you override bounce-back, the window does not reverse if it detects an obstacle. Take care when closing the windows to avoid personal injury or damage to your vehicle.

The window stops if you release the switch before the window fully closes. Pull up the window switch and hold within a few seconds of the window reaching the bounce-back position. The window travels up with no bounce-back protection.

# Windows and Mirrors

## Window Lock



Press the control to lock or unlock the rear window controls. It illuminates when you lock the rear window controls.

## Accessory Delay

You can use the window switches for several minutes after you switch the ignition off or until you open either front door.

## EXTERIOR MIRRORS

### Power Exterior Mirrors



**WARNING:** Do not adjust the mirrors when your vehicle is moving. This could result in the loss of control of your vehicle, serious personal injury or death.



- A Left-hand mirror.
- B Adjustment control.
- C Right-hand mirror.

To adjust your mirrors, switch your vehicle on with the ignition in accessory mode or the engine running and then:

1. Select the mirror you want to adjust. The control lights.
2. Use the adjustment control to adjust the position of the mirror.
3. Press the mirror control again. The control light turns off.

### Fold-Away Exterior Mirrors

Push the mirror toward the door window glass. Make sure that you fully engage the mirror in its support when returning it to its original position.

### Heated Exterior Mirrors (If Equipped)

See **Heated Exterior Mirrors** (page 105).

### Integrated Blind Spot Mirror

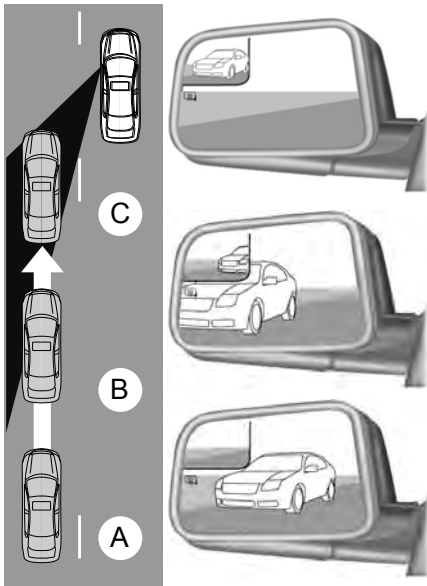


**WARNING:** Objects in the mirror are closer than they appear.

# Windows and Mirrors

Blind spot mirrors have an integrated convex mirror built into the upper outboard corner of the exterior mirrors. They can assist you by increasing visibility along the side of your vehicle.

Check the main mirror first before a lane change, then check the blind spot mirror. If no vehicles are present in the blind spot mirror and the traffic in the adjacent lane is at a safe distance, signal that you are going to change lanes. Glance over your shoulder to verify traffic is clear, and carefully change lanes.



The image of the approaching vehicle is small and near the inboard edge of the main mirror when it is at a distance. The image becomes larger and begins to move outboard across the main mirror as the vehicle approaches (A). The image transitions from the main mirror and begins to appear in the blind spot mirror as the vehicle approaches (B). The vehicle transitions to your peripheral field of view as it leaves the blind spot mirror (C).

## Blind Spot Information System (if Equipped)

See **Blind Spot Information System** (page 167).

## INTERIOR MIRROR



**WARNING:** Do not adjust the mirrors when your vehicle is moving. This could result in the loss of control of your vehicle, serious personal injury or death.

**Note:** Do not clean the mirror housing or glass with harsh abrasives, fuel or other petroleum-based cleaning products.

You can adjust the interior mirror to your preference. Some mirrors also have a second pivot point. This lets you move the mirror head up or down and from side to side.

## Manual Dimming Mirror

Pull the tab below the mirror toward you to reduce the effect of bright light from behind.

# Windows and Mirrors

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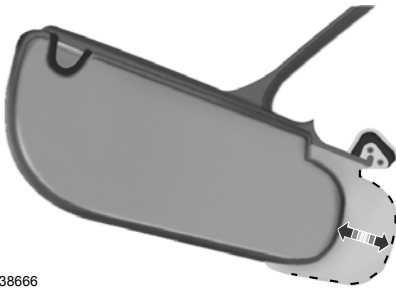
## **Automatic Dimming Mirror (If Equipped)**

**Note:** Do not block the sensors on the front and back of the mirror. A rear center passenger or raised rear center head restraint may also block light from reaching the sensor.

The mirror dims to reduce the effect of bright light from behind. It returns to normal when the bright light from behind is no longer present or if you shift into reverse (R).

## **SUN VISORS**

### **Slide-on-rod (If Equipped)**



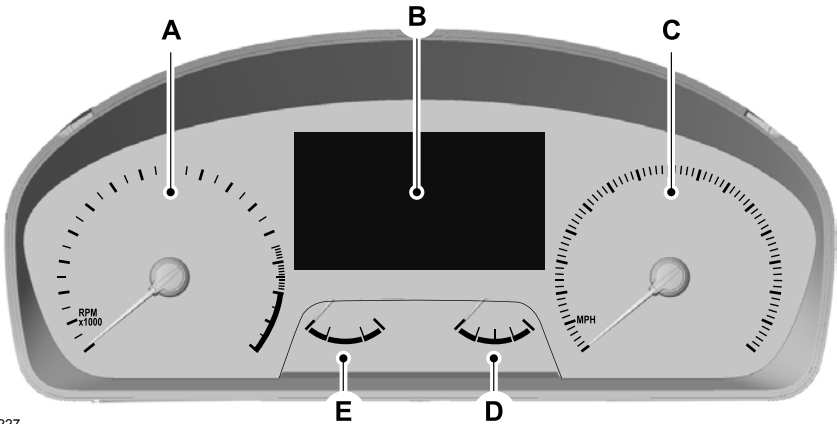
E138666

Rotate the sun visor toward the side window and extend it rearward for extra shade.



# Instrument Cluster

## GAUGES



E282227

- A Tachometer.
- B Information display.
- C Speedometer.
- D Fuel gauge.
- E Engine coolant temperature gauge.

### Information Display

Information that appears depends on your vehicle settings. See **General Information** (page 84).

### Speedometer

Your vehicle is shipped with a certified digital speedometer and analog gauge. If your local procedures require calibration, utilize the distance per time on-road test or a radar-based speed test. If a dynamometer calibration is required, reference the calibration procedure found at [www.Fleet.Ford.com](http://www.Fleet.Ford.com) or check OASIS for updated information.

### Fuel Gauge

The fuel gauge indicates about how much fuel is in the fuel tank.

The arrow adjacent to the fuel pump symbol indicates on which side of your vehicle the fuel filler door is located.

**Note:** *The fuel gauge may vary slightly when your vehicle is moving or on a slope.*

### Low Fuel Reminder

A low fuel level reminder displays and sounds when the distance to empty reaches 50 mi (80 km), 25 mi (40 km), 10 mi (20 km) and 0 mi (0 km) for all vehicle keys.

# Instrument Cluster

**Note:** The low fuel reminder can appear at different fuel gauge positions depending on fuel economy conditions. This variation is normal.

## Engine Coolant Temperature Gauge

Indicates engine coolant temperature. At normal operating temperature, the level indicator will be in the normal range. If the engine coolant temperature exceeds the normal range, stop your vehicle as soon as safely possible, switch off the engine and let the engine cool.



**WARNING:** Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.

## WARNING LAMPS AND INDICATORS

The following warning lamps and indicators alert you to a vehicle condition that may become serious. Some lamps illuminate when you start your vehicle to make sure they work. If any lamps remain on after starting your vehicle, refer to the respective system warning lamp for further information.

**Note:** Some warning indicators appear in the information display and function the same as a warning lamp, but do not display when you start your vehicle.

## Anti-Lock Braking System



If it illuminates when you are driving, this indicates a system error. You continue to have the normal braking (without ABS) unless the brake system warning lamp also illuminates. Have the system checked by an authorized dealer.

## Battery



If it illuminates while driving, it indicates a system error. Switch off all unnecessary electrical equipment and have the system checked by an authorized dealer immediately.

## Blind Spot Monitor (if Equipped)



It illuminates when you switch this feature off or in conjunction with a message. See **Blind Spot Information System** (page 167).

## Brake System Warning Lamp



**WARNING:** Driving your vehicle with the warning lamp on is dangerous. A significant decrease in braking performance may occur. It may take you longer to stop your vehicle. Have your vehicle checked as soon as possible. Driving extended distances with the parking brake engaged can cause brake failure and the risk of personal injury.

**Note:** Indicators vary depending on region.

This lamp is a dual function lamp and illuminates when:

- You apply the parking brake with the ignition on.
- Your vehicle has a brake fault or low brake fluid level, regardless of parking brake position.

# Instrument Cluster

## BRAKE

If the lamp illuminates when you are moving, you may have the parking brake applied. Make sure the parking brake is off. Have your vehicle checked as soon as possible if the lamp continues to illuminate.



## Cruise Control



Illuminates when you switch this feature on.

## Deep Snow and Sand



Illuminates when you switch this feature on.

## Direction Indicator



Illuminates when you switch on the left or right direction indicator or the hazard flasher. If the indicators stay on or flash faster, check for a burned out bulb. See **Changing a Bulb** (page 236).

## Door Ajar



Illuminates when the ignition is on and any door is not completely closed.

## Electric Park Brake



Illuminates or flashes when the electric parking brake has a system error. See **Electric Parking Brake** (page 152).

## Engine or Motor Coolant Temperature



Illuminates when the engine coolant temperature is high. Stop your vehicle as soon as possible, switch off the engine and let it cool. See **Engine Coolant Check** (page 226).

## Engine Oil



If it illuminates with the engine running or when you are driving, this indicates a system error. Stop your vehicle as soon as it is safe to do so and switch the engine off. Check the engine oil level. See **Engine Oil Check** (page 222).

**Note:** *Do not resume your journey if it illuminates despite the level being correct. Have the system checked by an authorized dealer immediately.*

## Fasten Seatbelt



Illuminates and a tone sounds to remind you to fasten your seatbelt. See **Seatbelt Reminder** (page 37).

## Front Airbag



If it fails to illuminate when you start your vehicle, continues to flash or remains on, it indicates there is a system error.

## Front Fog Lamps (If Equipped)



Illuminates when you switch the front fog lamps on.

# Instrument Cluster

## High Beam



Illuminates when you switch the high beam headlamps on. It flashes when you use the headlamp flasher.

## High Voltage Electric System Failure (If Equipped)



It illuminates if your hybrid electric vehicle has an electrical component fault or failure that causes your vehicle to shutdown or enter a limited operating mode. A message may appear in the instrument cluster display.

## Hood Ajar



Illuminates when the ignition is on and the hood is not completely closed.

## Lamps On



Illuminates when you switch the low beam headlamps or the parking lamps on.

## Liftgate Ajar



Illuminates when the liftgate is not completely closed.

## Liftgate Lock Release



Illuminates when the rear liftgate mechanism remains unlocked for a short time before timing out, permitting access the cargo area.

## Low Beam Warning



Illuminates when the low beam headlamp bulb is not functioning properly.

## Low Fuel Level



Illuminates when the fuel level is low or the fuel tank is nearly empty. Refuel as soon as possible.

## Low Tire Pressure Warning



Illuminates when your tire pressure is low. If the lamp remains on with the engine running or when driving, check your tire pressure as soon as possible.

It also illuminates momentarily when you switch the ignition on to confirm the lamp is functional. If it does not illuminate when you switch the ignition on, or begins to flash at any time, have the system checked by an authorized dealer.

## Low Washer Fluid



Illuminates when the windshield washer fluid is low.

## Police Engine Idle feature (If Equipped)



Illuminates when the police engine idle feature is armed and active.

## Police Perimeter Alert (If Equipped)



Illuminates when the police perimeter security feature has been activated.

## Police Pursuit Mode (If Equipped)



Illuminates when police pursuit mode is active.

# Instrument Cluster

## Powertrain Fault



Illuminates when the system detects a powertrain or an AWD fault. Contact an authorized dealer as soon as possible.

## Pre-Collision Assist (If Equipped)



Illuminates when you switch this feature off or when the feature is unavailable.

## Ready to Drive (If Equipped)



Illuminates when you have switched on your hybrid electric vehicle and it is ready to drive. A corresponding message may appear stating ready to drive.

## Service Engine Soon



It illuminates when you switch the ignition on prior to engine start to check the bulb and to indicate whether your vehicle is ready for Inspection and Maintenance (I/M) testing.

Normally, it illuminates until the engine is cranked and automatically turns off if no system errors are present. However, if after 15 seconds it flashes eight times, this indicates that your vehicle is not ready for Inspection and Maintenance (I/M) testing. See **Catalytic Converter** (page 138).

If it illuminates when the engine is running this indicates a system error. The On Board Diagnostics system has detected an error in the vehicle emission control system.

If it flashes, engine misfire may be occurring. Continuing to drive your vehicle may cause reduced power or the engine to stop. Failure to respond to the warning lamp may cause component damage not covered by the vehicle Warranty. Have your vehicle checked as soon as possible.

## Stability Control



It flashes when the system is active. If it remains illuminated or does not illuminate when you switch the ignition on, this indicates a system error. During a system error the system switches off. Have the system checked by an authorized dealer immediately. See **Using Stability Control** (page 158).

## Stability Control Off



Illuminates when you switch the system off. It goes out when you switch the system back on or when you switch the ignition off. See **Using Stability Control** (page 158).

## AUDIBLE WARNINGS AND INDICATORS

### Key in Ignition Warning Chime

Sounds when you open the driver's door and you have left the key in the ignition.

### Headlamps On Warning Chime

Sounds when you remove the key from the ignition and open the driver's door and you have left the headlamps or parking lamps on.

### Parking Brake On Warning Chime

Sounds when you have left the parking brake on and drive your vehicle. If the warning chime remains on after you have released the parking brake, have the system checked by your authorized dealer immediately.

# Instrument Cluster

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## **Automatic Transmission Warning Chime**

Sounds when you have not moved the transmission selector lever to position **P**. A message will be shown in the display.

# Information Displays

## GENERAL INFORMATION



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

You can control various systems on your vehicle using the quick action menu (QAM) buttons on the right-hand side of the steering wheel. The information display provides the corresponding information.

## Information Display Controls



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- A Return button.
- B OK button.
- C Menu button.

### Return Button

Use the return button to go back or to exit.

### OK Button

Use the **OK** button to make a selection. You can also use it to scroll through a menu.

### Menu Button

Use the menu button on the main screen to display the submenu.

### Menu



This icon gives you the ability to switch a feature on or off. A check in the box indicates the feature is on, and unchecked indicates the feature is off.

**Note:** *Some menus may show features used in different models, some may appear different to you on your vehicle.*

# Information Displays

## Trip 1

Trip 1	
Trip 1	
Trip 2	
Reset Individual Values	Select Your Setting
Configure View	Select Your Setting

- Trip Odometer - Registers the distance traveled of individual journeys or the total distance since the function was last reset.
- Trip Timer - Registers the elapsed time of individual journeys or the total time since the function was last reset.
- Average Fuel - Indicates the average fuel consumption of individual journeys or the average fuel consumption since the function was last reset.
- Average Speed - Indicates the average vehicle speed of individual journeys or the average vehicle speed since the function was last reset.
- Distance to Empty - Indicates the approximate distance your vehicle can travel on the fuel remaining in the tank. Changes in driving pattern can cause the value to not only decrease but also increase or stay constant for periods of time.

**Note:** Press and hold the **OK** button on the controls on the steering wheel to reset your trip information.

## MyView

MyView
Range Indication
Power Charge Gauge
Fuel Economy
Trip/Audio
Calm Screen

## Navigation

Navigation
Menu options covered in the SYNC chapter. See <b>General Information</b> (page 307).



# Information Displays

## Audio

Audio
Menu options covered in the SYNC chapter. See <b>General Information</b> (page 307).

## Phone

Phone
Menu options covered in the SYNC chapter. See <b>General Information</b> (page 307).

## Settings

Settings		
Information	Contains vehicle status information. Select Your Setting.	
Display	Language	Select Your Setting
	Measure unit	
	Temperature unit	
	Tire Pressure	
Driver Assistance	Select Your Setting	
Vehicle Settings	Alarm system	Select Your Setting
	Chimes	
	DTE Calculation	
	Lighting	
	Locks	
	Wipers	Select Your Setting
Vehicle Maintenance	Oil Level	
	Oil Life	
	Brake Fluid Life	
	Tire Pressure	

# Information Displays

## INFORMATION MESSAGES

**Note:** Depending on your vehicle options and instrument cluster type, not all of the messages display or are available. Certain messages may be abbreviated or shortened depending upon which cluster type you have.



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

Certain messages need to be confirmed before you can access the menus.

## AWD

Message	Action
AWD Temporarily Disabled	The all wheel drive system has automatically disabled itself due to the system overheating.
AWD Temporarily Locked	The all wheel drive system is locking up the torque transfer clutch to help reduce clutch temperature.
AWD OFF	Displays when the system automatically disables to protect itself. This may be caused by operating the vehicle with a mini spare tire installed, if the system detects dissimilar size tires, or if there is an issue with another vehicle system preventing AWD operation. The system resumes normal operation and clears this message after you cycle the ignition on and off and drive a short distance with the road tire re-installed or after the other vehicle system issues are resolved.
AWD Restored	Displays after the system cools and the all wheel drive system resumes normal function.

## Information Displays

Message	Action
AWD Fault Service Required	The all wheel drive system is not operating properly and the powertrain fault indicator illuminates. If the warning stays illuminated or continues to illuminate, contact an authorized dealer as soon as possible.
Change AWD Power Transfer Unit Lube	Displayed when the transfer case fluid requires service.
AWD Power Transfer Unit Lube Set to New	Displayed when the transfer case fluid has been changed and reset to new.

## AdvanceTrac™ and Traction Control

Message	Action
Service AdvanceTrac	The system detects a condition that requires service. Have the system checked as soon as possible.
AdvanceTrac Off	The status of the AdvanceTrac system after you switch it off.
AdvanceTrac On	The status of the AdvanceTrac system after you switch it on.
AdvanceTrac OFF in 4x4 LOW	The system is off while the vehicle is in 4x4 low.
AdvanceTrac SPORT MODE	The status of the AdvanceTrac sport mode after you switch it on.
Traction Control Off	The status of the traction control system after you switch it off.
Traction Control On	The status of the traction control system after you switch it on.

## Alarm

Message	Action
Vehicle Alarm To Stop Alarm, Start Vehicle.	Alarm triggered due to unauthorized entry. See <b>Anti-Theft Alarm</b> (page 63).

# Information Displays

## Battery and Charging System

Message	Action
Check Charging System	The charging system needs servicing. If the warning stays on or continues to come on, have the system checked as soon as possible.
Charging System Service Soon	The charging system needs servicing. If the warning stays on or continues to come on have the system checked as soon as possible.
Charging System Service Now	The charging system needs servicing. Have the system checked as soon as possible.
Battery State of Charge Low	The battery management system determines that the 12V battery is at a low state of charge. Start the engine to charge the battery or charge the battery using an aftermarket battery charger. This message clears once you restart your vehicle and the battery state of charge has recovered.
Turn Power Off To Save Battery	The battery management system determines that the battery is at a low state of charge. Turn the ignition off as soon as possible to protect the battery. This message will clear once the vehicle has been started and the battery state of charge has recovered. Turning off unnecessary electrical loads will allow faster battery state-of-charge recovery.
Low Battery Features Temporarily Turned Off	Displays when the battery management system detects an extended low-voltage condition. Various vehicle features will be disabled to help preserve the battery. Turn off as many of the electrical loads as soon as possible to improve system voltage. If the system voltage has recovered, the disabled features will operate again as normal.

## Blind Spot Information and Cross Traffic Alert System

Message	Action
Blind Spot System Fault	A system error has occurred. Have the system checked as soon as possible.
Blind Spot Not Available Sensor Blocked See Manual	The system sensors are blocked. See <b>Blind Spot Information System</b> (page 167).
Cross Traffic Alert Applying Brakes	The system detects a vehicle and automatically applied the brakes.

## Information Displays

Message	Action
Cross Traffic Not Available Sensor Blocked See Manual	The blind spot information system and cross traffic alert system sensors are blocked. See <b>Cross Traffic Alert</b> (page 170).
Cross Traffic System Fault	A system error has occurred. Have the system checked as soon as possible.
Cross Traffic Alert Deactivated Trailer Attached	The system automatically turns off and displays this message when you connect a trailer to the vehicle that does not have a trailer blind spot system or when you switch the trailer blind spot system off through the information display. See <b>Cross Traffic Alert</b> (page 170).
Blind Spot Alert Deactivated Trailer Attached	The system automatically turns off and displays this message when you connect a trailer to the vehicle that does not have a trailer blind spot system or when you switch the trailer blind spot system off through the information display. See <b>Blind Spot Information System</b> (page 167).

## Doors and Locks

Message	Action
Driver Door Ajar	The driver door is not completely closed.
Passenger Door Ajar	The passenger door is not completely closed.
Rear Left Door Ajar	The rear left door is not completely closed.
Rear Right Door Ajar	The rear right door is not completely closed.
Liftgate Ajar	The liftgate is not completely closed.
Hood Ajar	The hood is not completely closed.
Switches Inhibited Security Mode	The system has disabled the door switches.
Doors Locked Unlock Before Opening	Displays when the door lock is turned on and you attempt to open the door.

# Information Displays

Message	Action
Driver Door Fault Use Inside Override Lever In Map Pocket	Indicates a driver door fault that requires manually opening the door by the override lever. Have the system checked as soon as possible.
Door Fault Service Required	Indicates a fault with the electronic door system. Have the system checked as soon as possible.
Child Lock Malfunction Service Required	There is a system malfunction with the child locks. Have the system checked as soon as possible.
Child Lock ON	Indicates that the rear seat interior door release switches and power windows are switched off, preventing rear seat occupants from opening the doors or windows.
Child Lock OFF	Indicates that the rear seat interior door release switches and power windows are switched on, allowing the rear seat occupants to open the doors and windows.
Factory Keypad Code {X X X X X}	The factory keypad code displays in the information display after the system resets the keypad. See <b>Anti-Theft Alarm</b> (page 63).

## Fuel

Message	Action
Fuel Level Low	An early reminder of a low fuel condition.
Check Fuel Fill Inlet	The fuel fill inlet may not be properly closed.
Fuel Door Opening	Wait for up to 15 seconds while the fuel system depressurizes.
Fuel Door Open	The fuel system has finished depressurizing and you can begin to refuel.
Close Fuel Door to Avoid ""Check Engine"" Light	A reminder to close the fuel door. Failure to follow this instruction can cause the check engine light to illuminate.
Refuel Error See Manual	There is an error in attempting to refill your vehicle.

# Information Displays

## Hill Start Assist

Message	Action
Hill Start Assist Not Available	Hill start assist is not available. Have the system checked as soon as possible. See <b>Hill Start Assist</b> (page 154).

## Keys and Intelligent Access

Message	Action
To START Press Brake	A reminder to press the brake while starting your vehicle.
No Key Detected	The key is not detected by the system.
Restart Now or Key is Needed	The Start Stop button is pressed to shut off the engine and an Intelligent Access key is not detected inside your vehicle.
Full Accessory Power Active	Your vehicle is in the accessory ignition state.
Starting System Fault	There is a problem with your vehicle's starting system. Have the system checked as soon as possible.
Key Program Successful	During spare key programming, an intelligent access key is programmed to the system.
Max Number of Keys Learned	During spare key programming, the maximum number of keys have been programmed.
Key Program Failure	Displays during spare key programming, when intelligent access key programming fails.
Not Enough Keys Learned	Displays during spare key programming when you have not programmed enough keys.
Key Battery Low Replace Soon	Displays when the key battery is low. Change the battery as soon as possible.
Vehicle Switched Off	Displays when you switch the vehicle off.
Vehicle is ON	Informs you that upon exiting your vehicle that the vehicle is still on.

# Information Displays

## Maintenance

Message	Action
Low Engine Oil Pressure	Stop your vehicle as soon as safely possible and turn off the engine. Check the oil level. If the warning stays on or continues to come on with your engine running, have the system checked as soon as possible.
Change Engine Oil Soon	The engine oil life is low and needs to be changed soon.
Oil Change Required	The engine oil life is low and needs to be changed immediately.
Brake Fluid Level Low	The brake fluid level is low and the brake system should be inspected immediately. See <b>Brake Fluid Check</b> (page 230).
Check Brake System	The brake system needs servicing. Stop the vehicle in a safe place. Contact an authorized dealer.
Engine Coolant Over Temperature	The engine coolant temperature is excessively high.
Washer Fluid Level Low	The washer fluid is low and needs to be refilled.
Transport Mode Contact Dealer	Indicates that your vehicle is still in Transport mode. This may not allow some features to operate properly. Have the system checked as soon as possible.
Factory Mode Contact Dealer	Indicates that your vehicle is still in Factory mode. This may not allow some features to operate properly. Have the system checked as soon as possible.
See Manual	Informs the driver that the powertrain needs service due to a powertrain malfunction.
Power Reduced to Lower Engine Temp	The engine has reduced power to help reduce high engine temperature.



## Information Displays

Message	Action
Brake Applied Power Reduced	The brake system has reduced stopping power.
Brake Applied Power Reduced	The brake system has reduced stopping power.
Motor Coolant Over Temperature	The motor electronics are overheating. Stop your vehicle as soon as safely possible, turn off your vehicle and let it cool. If the warning stays on or continues to come on, contact an authorized dealer as soon as possible.

### Park Aid

Message	Action
Check Front Park Aid	The system detects a fault that requires service. Have your vehicle checked as soon as possible.
Check Rear Park Aid	The system detects a fault that requires service. Have your vehicle checked as soon as possible.
Rear Park Aid Not Available Sensor Blocked See Manual	The radar is blocked due to bad weather, ice, mud or water in front of radar. You can typically clean the sensor to resolve. See <b>Rear Parking Aid</b> (page 159).
Front Park Aid Not Available Sensor Blocked See Manual	The radar is blocked due to bad weather, ice, mud or water in front of radar. You can typically clean the sensor to resolve.
Park Aid Not Avail- able Sensor Blocked See Manual	The radar is blocked due to bad weather, ice, mud or water in front of radar. You can typically clean the sensor to resolve. See <b>Principle of Operation</b> (page 159).
Front Park Aid On Off	Displays the park aid status.
Rear Park Aid On Off	Displays the park aid status.

# Information Displays

## Park Brake

<b>Message</b>	<b>Action</b>
Park Brake Engaged	The parking brake is set, the engine is running and you drive your vehicle more than 3 mph (5 km/h). If the warning stays on after the parking brake is released, contact an authorized dealer as soon as possible.
To Release: Press Brake and Switch	The electric parking brake is set and a manual release is attempted without the brake pedal being pressed.
Park Brake Use Switch to Release	The electric parking brake is set and an automatic release is attempted but cannot be performed. Perform a manual release.
Release Park Brake	The electric parking brake is set and your vehicle speed exceeds 3 mph (5 km/h). Release park brake before continued driving.
Park Brake Not Applied	The electric parking brake is not fully applied.
Park Brake Not Released	The electric parking brake is not fully released.
Park Brake Maintenance Mode	The electric parking brake system has been put into a special mode that is used to allow service of the rear brakes. Have the system checked as soon as possible.
Park Brake Limited Function Service Required	The electric park brake system has detected a condition that requires service. Some functionality may still be available. Have the system checked as soon as possible.
Park Brake Malfunction Service Now	The electric parking brake system has detected a condition that requires service. Have the system checked as soon as possible.
Park Brake System Overheated	Numerous park brake applies have overheated the system. Wait 2 minutes before attempting to apply again.

# Information Displays

## Police Engine Idle feature

<b>Message</b>	<b>Action</b>
Police Engine Idle Not Available	Displayed when the Police Engine Idle feature conditions are not correct for proper operation.
Police Engine Idle Fault	Displayed when there is a fault detected in the Police Engine Idle feature and the system is not active.
Police Engine Idle Fault Restart Engine	Displayed when there is a fault detected in the Police Engine Idle feature and the system is active.
Police Engine Idle Active Reinsert Key or Press Button	Displayed when the Police Engine Idle feature is active.

## Power Steering

<b>Message</b>	<b>Action</b>
Steering Fault Service Now	The power steering system has detected a condition that requires service. Have the system checked as soon as possible.
Steering Loss Stop Safely	The power steering system is not working. Stop your vehicle in a safe place. Have the system checked as soon as possible.
Steering Assist Fault Service Required	The power steering system has detected a condition within the power steering system or passive entry or passive start system that requires service. Have the system checked as soon as possible.
Steering Lock Malfunction Service Now	The steering lock system has detected a condition that requires service. Have the system checked as soon as possible.

# Information Displays

## Pre-Collision Assist

Message	Action
Pre-Collision Assist Not Available Sensor Blocked	You have a blocked sensor due to inclement weather, ice, mud or water in front of the radar sensor. You can typically clean the sensor to resolve.
Pre-Collision Assist Not Available	A fault with the system has occurred. Have the system checked as soon as possible.

## Seats

Message	Action
Occupant Sensor BLOCKED Remove Objects Near Passenger Seat	Objects are by the passenger seat. After you move the objects away from the seat, if the warning stays on or continues to come on, contact an authorized dealer as soon as possible.

## Starting System

Message	Action
To START Press Brake	Displays when starting the vehicle as a reminder to apply the brake.
Cranking Time Exceeded	Displays when the starter has exceeded its cranking time in attempting to start the vehicle.
Engine Start Pending Please Wait	Displays when the starter is attempting to start the vehicle.
Pending Start Cancelled	Displays when the pending start has been cancelled.
Ready to Drive	Your vehicle is ready to drive.

# Information Displays

## Tire Pressure Monitoring System

Message	Action
Tire Pressure Low	One or more tires on your vehicle have low tire pressure. See <b>Tire Pressure Monitoring System</b> (page 263).
Tire Pressure Monitor Fault	The tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, have the system checked as soon as possible. See <b>Tire Pressure Monitoring System</b> (page 263).
Tire Pressure Sensor Fault	A tire pressure sensor is malfunctioning, or your spare tire is in use. For more information on how the system operates under these conditions, See <b>Tire Pressure Monitoring System</b> (page 263). If the warning stays on or continues to come on, have the system checked as soon as possible.

## Trailer

Message	Action
Trailer Connected	A correct trailer connection is sensed during a given ignition cycle.
Trailer Disconnected	A trailer connection becomes disconnected, either intentionally or unintentionally, and has been sensed during a given ignition cycle.
Trailer Sway Reduce Speed	The trailer sway control has detected trailer sway.
Trailer Wiring Fault	There are certain faults in your vehicle wiring and trailer wiring/brake system. See <b>Towing a Trailer</b> (page 185).
Trailer Left Turn Lamps Fault Check Lamps	There is a fault with your trailer turn lamp. Check your lamp.
Trailer Right Turn Lamps Fault Check Lamps	There is a fault with your trailer turn lamp. Check your lamp.
Trailer Battery Not Charging See Manual	There is a fault with your trailer battery. See <b>Towing a Trailer</b> (page 185).
Trailer Lighting Module Fault See Manual	There is a fault with your vehicle trailer lighting module. See <b>Towing a Trailer</b> (page 185).

# Information Displays

## Transmission

Message	Action
Shift to Park	You switched the engine off and shift select lever is in any position other than park (P).
Transmission Warming Up Please Wait	Transmission is too cold. Wait for it to warm up before you drive.
Press Brake Pedal	Displays when the brake pedal needs to be depressed.
Transmission Over Temperature Stop Safely	The transmission is overheating and needs to cool. Stop in a safe place as soon as it's possible.
Transmission Service Required	Have the system checked as soon as possible.
Transmission Too Hot Press Brake	The transmission is overheating and needs to cool. Stop in a safe place as soon as it's possible.
Transmission Limited Function See Manual	The transmission has limited functionality. Have the system checked as soon as possible.
Transmission Not in Park	A reminder to shift into park. In addition, this message is typical after reconnecting or recharging the battery until you cycle the ignition to the on mode. See <b>Changing the 12V Battery</b> (page 231).
SHIFT SYS FAULT Confirm Park Brake Apply Before Exiting the Vehicle	Displays when there is a system fault and the park brake needs to be depressed before exiting the vehicle. Have the system checked as soon as possible.
SHIFT SYS FAULT Service Required	Have the system checked as soon as possible.
SHIFT SYS FAULT Vehicle is Shifting to Park	Displays when there is a system fault while the vehicle is shifting to park. Have the system checked as soon as possible.
SHIFT SYS FAULT Reverse Unavailable Service Required	Displays when there is a system fault while the vehicle is shifting to reverse. Have the system checked as soon as possible.

## Information Displays

<b>Message</b>	<b>Action</b>
SHIFT SYS FAULT Drive Unavailable Select S for Drive Service Required	Have the system checked as soon as possible.
SHIFT SYS FAULT Neutral Unavailable Service Required	Have the system checked as soon as possible.
SHIFT SYS FAULT Sport Unavailable Service Required	Have the system checked as soon as possible.
Invalid Gear Selection	Displays when an invalid gear has been selected.
Depress Brake to Shift from Park	Displays when the brake pedal needs to be depressed to enable the transmission to shift from park.
Neutral Tow Engaged Turn Ignition Off for Towing	Reminder to switch off the ignition while in neutral tow.
Neutral Tow Engaged Depress Brake and Select Park to Exit Neutral Tow	Displays when neutral hold is active and you want to exit neutral tow.
Neutral Tow Remove Park Brake for Towing	Reminder to remove park brake while in neutral tow.
Neutral Tow Disengaged	Displays when the neutral tow is off.
Neutral Tow Enabled Leave Transmission in Neutral	Displays when neutral tow is on.

# Climate Control

## AUTOMATIC CLIMATE CONTROL



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**Note:** Depending on your vehicle option package, the controls may look different from what you see here.

**Note:** You can switch temperature units between Fahrenheit and Celsius.

**Note:** For Hybrid Electric Vehicle (HEV) and Plug-In Hybrid Electric Vehicle (PHEV) vehicles, the air conditioning compressor may run, and you may feel airflow when the climate control is off to provide cooling to the battery.

### Directing the Airflow



Press and release the button to direct airflow to the windshield air vents and de-mister.



Press and release the button to direct airflow to the instrument panel air vents.



Press and release the button to direct airflow to the footwell air vents.

You can direct air through any combination of these air vents.

### Setting the Blower Motor Speed



Press and release **+** or **-** to adjust the volume of air circulated in the vehicle.

### Setting the Temperature



Press the buttons on the left-hand side of the climate control to set the left-hand temperature.

**Note:** This control also adjusts the right-hand side temperature when you switch off dual zone mode.

Press the buttons on the right-hand side of the climate control to set the right-hand temperature.

### Switching Auto Mode On and Off



Press and release the button to switch on automatic operation. Repeatedly press the button to adjust auto mode.

The system adjusts the blower motor speed, air distribution, air conditioning operation, and outside or recirculated air to reach and maintain the temperature you have set.

Under high humidity conditions, the system adjusts the blower motor speed, air distribution and air conditioning operation to reduce window fogging.

**Note:** The system starts at the previous setting when you switch on **AUTO** mode.

**Note:** You can also switch off dual zone mode by pressing and holding the button for more than two seconds.



# Climate Control

## Auto Mode Indicator Status

Auto Mode Indicator Status	Description
One indicator illuminated.	<ul style="list-style-type: none"><li>• The blower motor speed is reduced.</li><li>• Use this setting to minimize the amount of noise from the blower motor.</li><li>• This setting increases the time taken to cool the interior.</li></ul>
Two indicators illuminated.	<ul style="list-style-type: none"><li>• The blower motor speed is moderate.</li></ul>
Three indicators illuminated.	<ul style="list-style-type: none"><li>• The blower motor speed is increased.</li><li>• Use this setting to reduce the time taken to cool the interior.</li><li>• This setting increases the amount of noise from the blower motor.</li></ul>

### Smart Zone - Hybrid Electric Vehicle (HEV), Plug-In Hybrid Electric Vehicle (PHEV)

If there is not an occupant in the front passenger seat, the climate control system may default to single zone to improve fuel economy, if you were previously in dual zone operation. When this occurs, dual zone turns off and the passenger set point changes to match the driver set point.

Adjust the passenger set point normally to use dual zone operation without a passenger present. The system remains in dual zone operation until you switch the vehicle off.

You can disable or re-enable the Smart Zone feature by pressing and holding **AUTO** for more than four seconds. Both set point displays begin flashing to signify when the feature disables. The system returns to previous state after you release **AUTO**.

### Switching the Air Conditioning On and Off



Press and release the button.

Use air conditioning with recirculated air to improve cooling performance and efficiency.

**Note:** In certain conditions, such as maximum defrost, the air conditioning compressor may continue to operate even though you switch off the air conditioning.

**Note:** The **A/C** LED light may turn on and off based on the temperature setting or the current conditions.

### Switching the Climate Control On and Off



Press and release the button.

# Climate Control

## Switching Maximum Air Conditioning On and Off



Press and release the button for maximum cooling.

The driver and passenger temperatures are set to LO, recirculated air flows through the instrument panel air vents, air conditioning turns on and the blower motor adjusts to the highest speed.

## Switching Maximum Defrost On and Off



Press and release the button for maximum defrosting.

The driver and passenger temperatures are set to HI, air flows through the windshield air vents, and the blower motor adjusts to the highest speed.

**Note:** Depending on your region, air conditioning turns on.

You can also use this setting to defog and clear the windshield of a thin covering of ice.

**Note:** To prevent window fogging, you cannot select recirculated air when maximum defrost is on.

**Note:** The heated rear window also turns on when you select maximum defrost.

## Switching Recirculated Air On and Off



Press and release the button to switch between outside air and recirculated air.

The air currently in the passenger compartment recirculates. This may reduce the time needed to cool the interior, when used with **A/C**, and reduce unwanted odors from entering your vehicle.

**Note:** Recirculated air may turn off, or prevent you from switching on, in all air flow modes except **MAX A/C** to reduce the risk of fogging. Recirculation may also turn on and off in various air distribution control combinations during hot weather to improve cooling efficiency.

## HINTS ON CONTROLLING THE INTERIOR CLIMATE

### General Hints

**Note:** Prolonged use of recirculated air may cause the windows to fog up.

**Note:** You may feel a small amount of air from the footwell air vents regardless of the air distribution setting.

**Note:** To reduce humidity build-up inside your vehicle, do not drive with the system switched off or with recirculated air always switched on.

**Note:** Do not place objects under the front seats as this may interfere with the airflow to the rear seats.

**Note:** Remove any snow, ice or leaves from the air intake area at the base of the windshield.

**Note:** To improve the time to reach a comfortable temperature in hot weather, drive with the windows open until you feel cold air through the air vents.

### Automatic Climate Control

**Note:** Adjusting the settings when your vehicle interior is extremely hot or cold is not necessary. Automatic mode is best recommended to maintain set temperature.

**Note:** The system adjusts to heat or cool the interior to the temperature you select as quickly as possible.

**Note:** For the system to function efficiently, the instrument panel and side air vents should be fully open.

# Climate Control

**Note:** If you select **AUTO** during cold outside temperatures, the system directs air flow to the windshield and side window air vents. In addition, the blower motor may run at a slower speed until the engine warms up.

**Note:** If you select **AUTO** during hot temperatures and the inside of the vehicle is hot, the system uses recirculated air to maximize interior cooling. Blower motor speed may also reduce until the air cools.

## Quickly Heating the Interior

1. Press and release **AUTO**.
2. Adjust the temperature function to the setting you prefer.

## Recommended Settings for Heating

1. Press and release **AUTO**.
2. Adjust the temperature function to the setting you prefer. Use 72°F (22°C) as a starting point, then adjust the setting as necessary.

## Quickly Cooling the Interior

1. Press and release **MAX A/C**.

## Recommended Settings for Cooling

1. Press and release **AUTO**.
2. Adjust the temperature function to the setting you prefer. Use 72°F (22°C) as a starting point, then adjust the setting as necessary.

## Defogging the Side Windows in Cold Weather

1. Press and release defrost or maximum defrost.

2. Adjust the temperature control to the setting you prefer. Use 72°F (22°C) as a starting point, then adjust the setting as necessary.

## REAR PASSENGER CLIMATE CONTROLS (IF EQUIPPED)



**Note:** Depending on your vehicle option package, the controls may look different from what you see here.

## Directing Air to the Overhead Air Vents



Press and release the button to direct airflow to the overhead air vents.

## Directing Air to the Rear Footwell Air Vents



Press and release the button to direct airflow to rear footwell air vents.

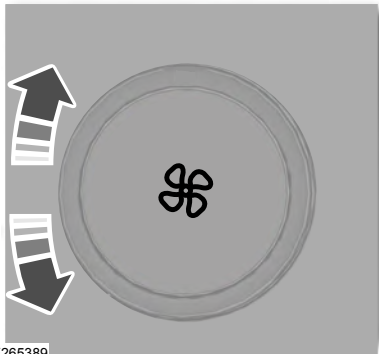
## Rear Climate Control Lock Indicator



When illuminated, you can only operate the rear passenger settings through the front controls.

# Climate Control

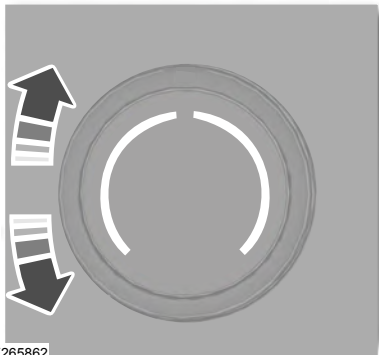
## Setting the Rear Blower Motor Speed



E265389

Turn the control to adjust the volume of air circulated in the rear passenger compartment.

## Setting the Rear Temperature



E265862

Turn the control to set the temperature in the rear passenger compartment.

## Switching the Rear Climate Control On and Off



Press and release the button.

## Switching the Rear Heated Seats On and Off (If Equipped)



## HEATED REAR WINDOW



Press the button to clear the rear window of thin ice and fog. The heated rear window turns off after a short period of time.

**Note:** Do not use harsh chemicals, razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. The vehicle warranty may not cover damage to the heated rear window grid lines.

## HEATED EXTERIOR MIRRORS

(IF EQUIPPED)

When you switch the heated rear window on, the heated exterior mirrors turn on.

**Note:** Do not remove ice from the mirrors with a scraper or adjust the mirror glass when it is frozen in place.

**Note:** Do not clean the mirror housing or glass with harsh abrasives, fuel or other petroleum-based cleaning products. The vehicle warranty may not cover damage caused to the mirror housing or glass.

# Interior Air Quality

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## WHAT IS THE CABIN AIR FILTER

The cabin air filter improves the quality of air in your vehicle by trapping dust, pollen and other particles.

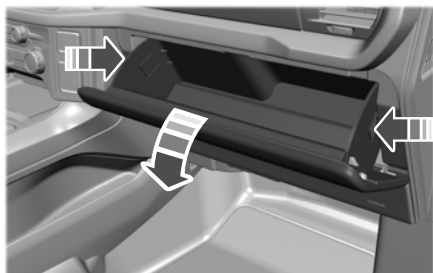
## REPLACING THE CABIN AIR FILTER

Replace the filter at regular intervals. See **Scheduled Maintenance** (page 326).

The cabin air filter is behind the glove compartment.

To remove the lower glove compartment and access the filter:

1. Open the glove compartment.



2. Press the tab on each side.
3. Fully lower the glove compartment.
4. Pull the glove compartment toward you.

# Seats

## SITTING IN THE CORRECT POSITION



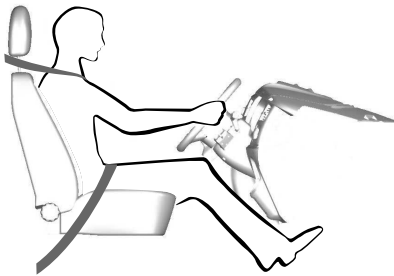
**WARNING:** Sitting improperly, out of position or with the seatback reclined too far can take weight off the seat cushion and affect the decision of the passenger sensing system, resulting in serious injury or death in the event of a crash. Always sit upright against your seat back, with your feet on the floor.



**WARNING:** Do not recline the seat backrest too far as this can cause the occupant to slide under the seatbelt, resulting in personal injury in the event of a crash.



**WARNING:** Do not place objects higher than the top of the seat backrest. Failure to follow this instruction could result in personal injury or death in the event of a sudden stop or crash.



When you use them properly, the seat, head restraint, seatbelt and airbags will provide optimum protection in the event of a crash.

We recommend that you follow these guidelines:

- Sit in an upright position with the base of your spine as far back as possible.
- Do not recline the seat backrest so that your torso is more than 30 degrees from the upright position.
- Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible. Make sure that you remain comfortable.
- Keep sufficient distance between yourself and the steering wheel. We recommend a minimum of 10 in (25 cm) between your breastbone and the airbag cover.
- Hold the steering wheel with your arms slightly bent.
- Bend your legs slightly so that you can press the pedals fully.
- Position the shoulder strap of the seatbelt over the center of your shoulder and position the lap strap tightly across your hips.

Make sure that your driving position is comfortable and that you can maintain full control of your vehicle.

## HEAD RESTRAINTS



**WARNING:** Fully adjust the head restraint before you sit in or operate your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraint when your vehicle is moving.

# Seats

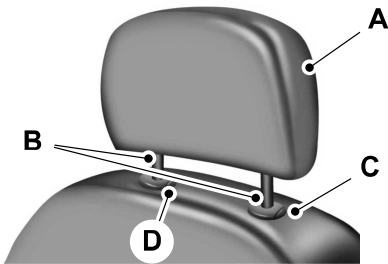


**WARNING:** The head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. Failure to adjust the head restraint properly could reduce its effectiveness during certain impacts.

**Note:** Adjust the seat backrest to an upright driving position before adjusting the head restraint. Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible. Make sure that you remain comfortable. If you are extremely tall, adjust the head restraint to its highest position.

## Adjusting the Head Restraints

### Front Seat Head Restraints



The head restraints consist of:

- A An energy absorbing head restraint.
- B Two steel stems.
- C Guide sleeve adjust and release button.
- D Guide sleeve.

### Raising the Head Restraint

Pull the head restraint up.

### Lowering the Head Restraint

1. Press and hold button C.
2. Push the head restraint down.

### Tilting Head Restraints (If Equipped)

The front head restraints tilt for extra comfort. To tilt the head restraint, do the following:

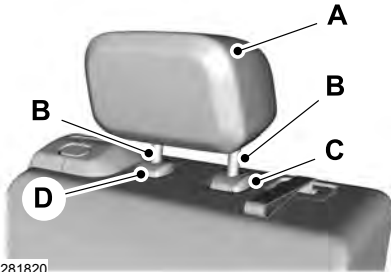


1. Adjust the seat backrest to an upright driving or riding position.
2. Pivot the head restraint forward toward your head to the position you prefer.

After the head restraint reaches the forward-most tilt position, pivot it forward again to release it to the rearward, un-tilted position.

# Seats

## Second Row Center Seat Head Restraint



The head restraints consist of:

- A An energy absorbing head restraint.
- B Two steel stems.
- C Guide sleeve adjust and release button.
- D Guide sleeve.

### Raising the Head Restraint

Pull the head restraint up.

### Lowering the Head Restraint

1. Press and hold button C.
2. Push the head restraint down.

## Second Row Outermost Seat Head Restraints





The head restraints consist of:

- A An energy absorbing head restraint.
- B Two steel stems.
- C Guide sleeve.

## MANUAL SEATS (IF EQUIPPED)

### Moving the Seat Backward and Forward

 **WARNING:** Do not adjust the driver seat or seat backrest when your vehicle is moving. This may result in sudden seat movement, causing the loss of control of your vehicle.

 **WARNING:** Make sure the seat fully locks into place by rocking it backward and forward. Not securing the seat into the locked position can be dangerous in a crash and could cause serious personal injury or death.



# Seats



E190838

## Adjusting the Seat Backrest

**WARNING:** Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

**WARNING:** Do not place cargo or any objects behind the seat backrest before returning it to the original position. Pull on the seat backrest to make sure that it has fully latched after returning the seat backrest to its original position. An unlatched seat may become dangerous if you stop suddenly or have a crash.



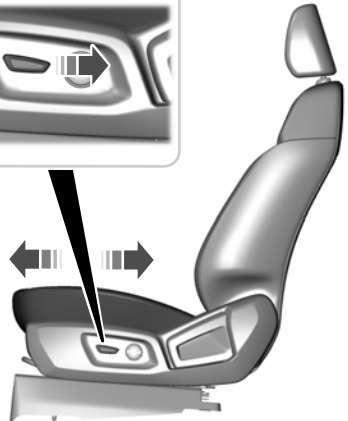
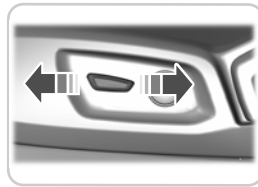
E291151

## POWER SEATS

**WARNING:** Do not adjust the driver seat or seat backrest when your vehicle is moving. This may result in sudden seat movement, causing the loss of control of your vehicle.

**WARNING:** Do not place cargo or any objects behind the seatback before returning it to the original position.

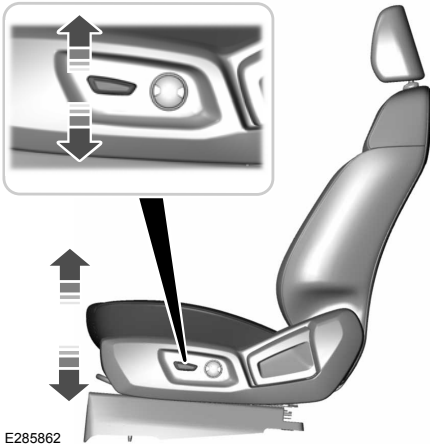
## Moving the Seat Backward and Forward



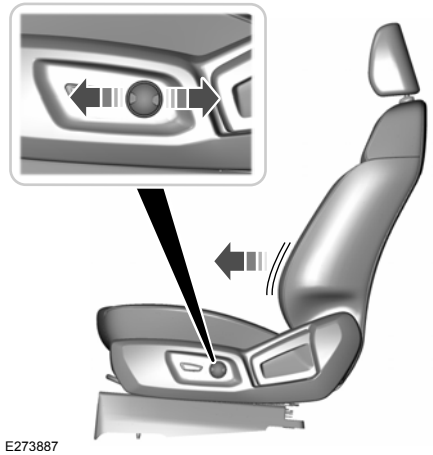
E274074

# Seats

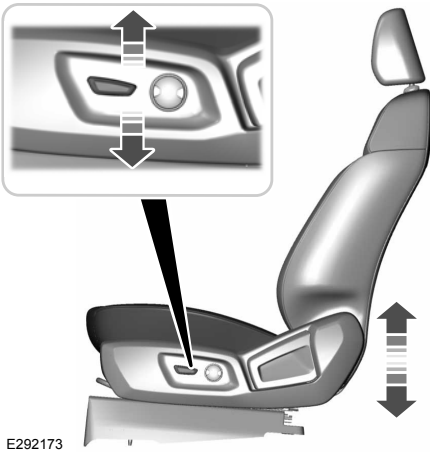
## Adjusting the Seat Cushion (if Equipped)



## Adjusting the Lumbar Support



## Adjusting the Seat Height



## Adjusting the Seat Backrest (if Equipped)



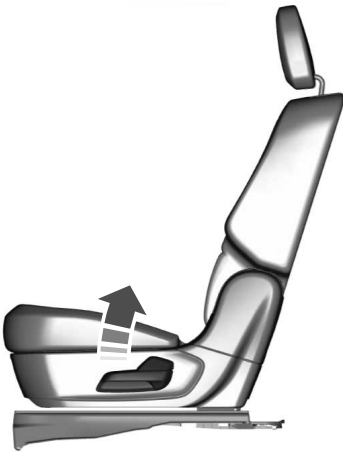
# Seats

## REAR SEATS

### Adjusting the Seat Backrest

**WARNING:** Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

**WARNING:** Do not recline the seat backrest too far as this can cause the occupant to slide under the seatbelt, resulting in personal injury in the event of a crash.



Lift the handle to adjust the seat backrest rearward or forward. The seat backrest can also fold forward until it is flat.

### Folding the Seat Backrest Flat (If Equipped)

**WARNING:** Do not place cargo or any objects behind the seat backrest before returning it to the original position. Pull on the seat backrest to make sure that it has fully latched after returning the seat backrest to its original position. An unlatched seat may become dangerous if you stop suddenly or have a crash.



E281813

Lift the handle and fold the seat backrest forward until it is flat.

**Note:** For the bench seats, make sure the center seatbelt is unbuckled before folding the seat backrest.

**Note:** You may need to move the front row seat forward to allow the second row seat to fold flat.

To return the seat backrest to the upright position, lift the seat backrest toward the rear of the vehicle until it latches.

# Seats

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## Folding the Second Row Center Seat



E285859

Pull the strap to fold the seat backrest flat.

To return the seat to the upright position, rotate the seat backrest until it locks.

# Rear Occupant Alert System (If Equipped)

## WHAT IS THE REAR OCCUPANT ALERT SYSTEM

The rear occupant alert system monitors vehicle conditions and notifies you to check for rear seat occupants when you switch the ignition off.

## HOW DOES THE REAR OCCUPANT ALERT SYSTEM WORK

The system monitors when rear doors have been opened and closed to indicate the potential presence of an occupant in the rear seat.

A message displays in the information and entertainment display screen and an audible warning sounds when you switch the ignition off after any of the following conditions have been met:

- A rear door is opened or closed while the ignition is on.
- You switch the ignition on within 15 minutes of a rear door opening and closing.
- You switch the ignition on within 15 minutes of the alert having displayed or sounded.

## REAR OCCUPANT ALERT SYSTEM PRECAUTIONS



**WARNING:** On hot days, the temperature inside the vehicle can rise very quickly. Exposure of people or animals to these high temperatures for even a short time can cause death or serious heat related injuries, including brain damage. Small children are particularly at risk.



**WARNING:** Do not leave children or pets unattended in your vehicle. Failure to follow this instruction could result in personal injury or death.

## REAR OCCUPANT ALERT SYSTEM LIMITATIONS

The system does not detect the presence of objects or passengers in the rear seat. It monitors when rear doors are opened and closed.

**Note:** *It is possible to receive an alert when there is no rear seat occupant, but alert conditions are met.*

**Note:** *It is possible to receive no alert when there is an occupant in the rear seat, if alert conditions are not met. For example, if a rear seat occupant does not enter the vehicle through a rear door.*

**Note:** *The audible warning does not sound when the front door is opened before you switch the ignition off.*

## SWITCHING REAR OCCUPANT ALERT SYSTEM ON AND OFF



Press the button on the audio unit.

1. Using the controls on the audio unit, select **Settings**.
2. Switch **Rear Occupant Alert** on or off.

## Semiannual Reminder (If Equipped)

When you switch the system off, a message appears every six months as a reminder that the system is off. You can switch the system back on or leave it off.

# Rear Occupant Alert System (If Equipped)

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## REAR OCCUPANT ALERT SYSTEM INDICATORS

Message
Check rear seats for occupants.

Displays when you switch the vehicle off after the alert conditions are met.



The message displays for a short period of time. Press the **OK** button to acknowledge and remove some messages from the information display.

## REAR OCCUPANT ALERT SYSTEM AUDIBLE WARNINGS

Sounds when you switch your vehicle off after the alert conditions are met.

The warning sounds for a short period of time.

# Auxiliary Power Points

## 12 Volt DC Power Point



**WARNING:** Do not plug optional electrical accessories into the cigar lighter socket. Incorrect use of the cigar lighter can cause damage not covered by the vehicle warranty, and can result in fire or serious injury.

**Note:** When you switch the ignition on, you can use the socket to power 12 volt appliances with a maximum current rating of 15 amps.

**Note:** If the power supply does not work after you switch the ignition off, switch the ignition on.

**Note:** Do not hang any accessory from the accessory plug.

**Note:** Do not use the power point over the vehicle capacity of 12 volt DC 180 watts or a fuse may blow.

**Note:** Always keep the power point caps closed when not in use.

Do not insert objects other than an accessory plug into the power point. This damages the power point and may blow the fuse.

Run the vehicle for full capacity use of the power point.

To prevent the battery from running out of charge:

- Do not use the power point longer than necessary when the vehicle is not running.
- Do not leave devices plugged in overnight or when you park your vehicle for extended periods.

## USB Port and Power Point Locations

USB Ports and Power Points may be in the following locations:

- On the lower instrument panel.
- Inside the center console.
- On the front of the center console.
- On the rear of the center console.
- In the cargo area.
- On the passenger side floor panel.
- 3rd row on the quarter trim panels.

**Note:** Some of the USB ports may not have data transfer capabilities.

**Note:** Incorrect use of the USB ports can cause damage not covered by the vehicle warranty.

## 110 Volt AC Power Point (If Equipped)



**WARNING:** Do not keep electrical devices plugged in the power point whenever the device is not in use. Do not use any extension cord with the 110 volt AC power point, since it will defeat the safety protection design. Doing so may cause the power point to overload due to powering multiple devices that can reach beyond the 150 watt load limit and could result in fire or serious injury.

**Note:** The power point turns off when you switch off the ignition, when the vehicle is not in accessory mode or when the battery voltage drops below 11 volts.

You can use the power point for electric devices that require up to 150 watts. It is on the rear of the center console.

# Auxiliary Power Points

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E247586

When the indicator light on the power point is:

- On: The power point is working, the ignition is ON or the vehicle is in accessory mode.
- Off: The power point is OFF, the ignition is OFF or the vehicle is not in accessory mode.
- Flashing: The power point is in fault mode.

Due to the different technologies used on its construction, some devices may exceed the capacity shown on its label when they are initially plugged-in.

The power outlet temporarily turns off power when in fault mode if the device exceeds the 150 watt limit. Unplug your device and switch the ignition off. Switch the ignition back on, but do not plug your device back in. Let the system cool off and switch the ignition off to reset the fault mode. Switch the ignition back on and make sure the indicator light remains on.

Do not use the power point for certain electric devices, including:

- Cathode-ray, tube-type televisions.
- Motor loads, such as vacuum cleaners, electric saws and other electric power tools or compressor-driven refrigerators.

- Measuring devices, which process precise data, such as medical equipment or measuring equipment.
- Other appliances requiring an extremely stable power supply such as microcomputer-controlled electric blankets or touch-sensor lamps.



# Starting and Stopping the Engine

## GENERAL INFORMATION



**WARNING:** Extended idling at high engine speeds can produce very high temperatures in the engine and exhaust system, creating the risk of fire or other damage.



**WARNING:** Do not park, idle or drive your vehicle on dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, creating the risk of fire.



**WARNING:** Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes can be toxic. Always open the garage door before you start the engine.



**WARNING:** Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for approximately 5 mi (8 km) after you reconnect it. This is because the engine management system must realign itself with the engine. You can disregard any unusual driving characteristics during this period.

The powertrain control system meets all Canadian interference-causing equipment standard requirements regulating the impulse electrical field or radio noise.

When you start the engine, avoid pressing the accelerator pedal before and during operation. Only use the accelerator pedal when you have difficulty starting the engine.

## IGNITION SWITCH



**0** (off) - The ignition is off.

**Note:** When you switch the ignition off and leave your vehicle, do not leave your key in the ignition. This could cause your vehicle battery to lose charge.

**I** (accessory) - Allows the electrical accessories, such as the radio, to operate while the engine is not running.

**Note:** Do not leave the ignition key in this position for too long. This could cause your vehicle battery to lose charge.

**II** (on) - All electrical circuits are operational and the warning lamps and indicators illuminate.

**III** (start) - Cranks the engine.

## STARTING A GASOLINE ENGINE

When you start the engine, the idle speed increases. This helps to warm up the engine. If the engine idle speed does not slow down automatically, have your vehicle checked by an authorized dealer.

# Starting and Stopping the Engine

**Note:** You can crank the engine for a total of 60 seconds without the engine starting before the starting system temporarily disables. The 60 seconds does not have to be all at once. For example, if you crank the engine three times for 20 seconds each time, without the engine starting, you reached the 60-second time limit. A message appears in the information display alerting you that you exceeded the cranking time. You cannot attempt to start the engine for at least 15 minutes. After 15 minutes, you are limited to a 15-second engine cranking time. You need to wait 60 minutes before you can crank the engine for 60 seconds again.

Before starting your vehicle, check the following:

- Make sure all occupants have fastened their safety belts.
- Make sure the headlamps and electrical accessories are off.
- Make sure the parking brake is on.
- Make sure the transmission is in park (P).
- Switch the ignition key to position **II**.

**Note:** Do not touch the accelerator pedal.

1. Fully depress the brake pedal.
2. Turn the key to position **III** to start the engine.

**Note:** The engine may continue cranking for up to 15 seconds or until it starts.

**Note:** If you cannot start the engine on the first try, wait for a short period and try again.

## Failure to Start

If you cannot start the engine after three attempts, wait 10 seconds and follow this procedure:

1. Fully depress the brake pedal.
2. Shift into park (P).

3. Fully depress the accelerator pedal and hold it there.
4. Start the engine.

## Stopping the Engine When Your Vehicle is Stationary

1. Shift into park (P).
2. Turn the key to position **O**.
3. Apply the parking brake.

## Stopping the Engine When Your Vehicle is Moving



**WARNING:** Switching off the engine when the vehicle is still moving will result in a loss of brake and steering assistance. The steering will not lock, but higher effort will be required. When the ignition is switched off, some electrical circuits, including air bags, warning lamps and indicators may also be off. If the ignition was turned off accidentally, you can shift into neutral (N) and re-start the engine.

1. Shift into neutral and use the brakes to bring your vehicle to a safe stop.
2. When your vehicle has stopped, shift into park (P) and turn the key to position **O**.
3. Apply the parking brake.

## Guarding Against Exhaust Fumes



**WARNING:** If you smell exhaust fumes inside your vehicle, have your vehicle checked by your authorized dealer immediately. Do not drive your vehicle if you smell exhaust fumes. Carbon monoxide is present in exhaust fumes. Take precautions to avoid its dangerous effects.

# Starting and Stopping the Engine

## Important Ventilating Information

If you stop your vehicle and then leave the engine idling for long periods, we recommend that you do one of the following:

- Open the windows at least 1 in (2.5 cm).
- Set your climate control to outside air.

## STARTING A HYBRID ELECTRIC VEHICLE SYSTEM

Before starting your vehicle, check the following:

- Make sure all occupants fasten their seatbelt.
- Make sure the headlamps and electrical accessories are off.
- Make sure the parking brake is on.
- Make sure the transmission is in park (P).

**Note:** *Do not touch the accelerator pedal.*

1. Turn the key to position **III** to start your vehicle.

**Note:** *The green READY indicator illuminates letting you know that your vehicle is ready for driving. Since your vehicle comes with a silent key start, the engine may not start when your vehicle starts. See **Hybrid Vehicle Operation** (page 123).*

When the engine starts for the first time on your drive, the idle speed increases, this helps to warm up the engine. If the engine idle speed does not slow down, have your vehicle checked by an authorized dealer.

If you are unable to start your vehicle, do the following:

1. Fully press the brake pedal.
2. Shift into park (P).
3. Fully press the accelerator pedal and hold it there.

4. Turn the key to position **III** to start your vehicle.

## Switching Off Your Vehicle When It Is Stationary

1. Put the transmission in park (P).
2. Turn the key to position **0**.
3. Apply the parking brake.

## Switching Off Your Vehicle When It Is Moving



**WARNING:** Do not switch off your vehicle when it is moving. This results in a significant decrease in braking and steering assistance. If the vehicle is switched off, some electrical circuits, for example airbags, could also turn off. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

1. Put the transmission into neutral (N) and use the brakes to bring your vehicle to a safe stop.
2. When your vehicle stops, put the transmission in park (P).
3. Turn the key to position **0**.
4. Apply the parking brake.

## Guarding Against Exhaust Fumes



**WARNING:** Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

# Starting and Stopping the Engine

## Important Ventilating Information

If you stop your vehicle and then leave the engine idling for long periods of time, we recommend that you do one of the following:

- Open the windows at least 1 in (3 cm).
- Set your climate control to outside air.

## ENGINE BLOCK HEATER (IF EQUIPPED)



**WARNING:** Failure to follow engine block heater instructions could result in property damage or serious personal injury.



**WARNING:** Do not use your heater with ungrounded electrical systems or two-pronged adapters. There is a risk of electrical shock.



**WARNING:** Do not fully close the hood, or allow it to drop under its own weight when using the engine block heater. This could damage the power cable and may cause an electrical short resulting in fire, injury and property damage.

**Note:** *The heater is most effective when outdoor temperatures are below 0°F (-18°C).*

The heater acts as a starting aid by warming the engine coolant. This allows the climate control system to respond quickly. The equipment includes a heater element, installed in the engine block and a wire harness. You can connect the system to a grounded 120-volt AC electrical source.

We recommend that you do the following for a safe and correct operation:

- Use a 16-gauge outdoor extension cord that is product certified by Underwriter's Laboratory (UL) or Canadian Standards Association (CSA). This extension cord must be suitable for use outdoors, in cold temperatures, and be clearly marked Suitable for Use with Outdoor Appliances. Do not use an indoor extension cord outdoors. This could result in an electric shock or become a fire hazard.
- Use as short an extension cord as possible.
- Do not use multiple extension cords.
- Make sure that when in operation, the extension cord plug and heater cord plug connections are free and clear of water. This could cause an electric shock or fire.
- If the block heater cord is under the hood, Do Not remove the wiring from its original location. Do Not close the hood on the extension wiring.
- Make sure your vehicle is parked in a clean area, clear of combustibles.
- Make sure the heater, heater cord and extension cord are firmly connected.
- Check for heat anywhere in the electrical hookup once the system has been operating for approximately 30 minutes.
- Make sure the system is unplugged and properly stowed before starting and driving your vehicle. Make sure the protective cover seals the prongs of the block heater cord plug when not in use.
- Make sure the heater system is checked for proper operation before winter.

# Starting and Stopping the Engine

## Using the Engine Block Heater

Make sure the receptacle terminals are clean and dry prior to use. Clean them with a dry cloth if necessary.

The heater uses 0.4 to 1.0 kilowatt-hours of energy per hour of use. The system does not have a thermostat. It achieves maximum temperature after approximately three hours of operation. Using the heater longer than three hours does not improve system performance and unnecessarily uses electricity.

## POLICE ENGINE IDLE FEATURE

(IF EQUIPPED)

The system allows you to leave the engine running and prevents your vehicle from unauthorized use when you are outside of your vehicle. When you remove the key from the ignition, the engine remains idling.

## Switching the System On



E227967

1. With your vehicle running and the transmission in park (P), press the button on the instrument panel. See **Instrument Panel** (page 18). A warning lamp illuminates to confirm the system is on. See **Warning Lamps and Indicators** (page 79).

2. Switch the ignition off and remove the key.

When the system is on:

- The power window switches turn off and the windows remain in their current state.
- The luggage compartment or liftgate unlock switch turns off.

**Note:** *When the system is on, you can use the key blade or the remote control to lock and unlock your vehicle.*

## Switching the System Off

- Turn the key to the run position.
- Press the button on the instrument panel.

**Note:** *If you switch the system off before switching the ignition to the run position, your vehicle shuts down.*

# Unique Driving Characteristics - Hybrid Electric Vehicle (HEV)

## HYBRID VEHICLE OPERATION

This hybrid vehicle combines electric and gasoline propulsion to provide breakthrough performance and improved efficiency. Familiarizing yourself with these unique characteristics provides an optimal driving experience from your vehicle.

### Starting

**READY** When you start your vehicle, a green READY indicator light appears in the instrument cluster letting you know that your vehicle is ready for driving.

The engine may not start because your vehicle has a silent key start feature. This fuel saving feature allows your vehicle to be ready to drive without requiring the gas engine to be running. The indicator remains on when your vehicle is on, whether the engine is running or not, to indicate your vehicle is capable of movement using the electric motor, gas engine or both. Typically, the engine does not start unless your vehicle is cold, or you request a climate control change, or press the accelerator pedal.

### Driving

The gas engine starts and stops to provide power when needed and to save fuel when not needed. When coasting at low speeds, coming to a stop, or standing, the gas engine normally shuts down and your vehicle operates in electric-only mode.

Conditions that could cause the engine to start up or remain running include:

- Considerably accelerating your vehicle.
- Climbing a hill.
- Charge level of the high voltage battery is low.
- High or low outside temperatures causing the system to heat or cool.

- Engine not warm enough to provide a desirable temperature for the passenger.
- Towing a trailer.
- Selectable drive modes. Certain selectable drive modes could cause the engine to run. See **What Is Drive Mode Control** (page 178).

### Stopping

The gas engine could shut off to conserve fuel as you come to a stop. You do not have to restart your vehicle. Simply step on the accelerator when you are ready to drive.

### Transmission Operation

The engine and electric motor together propel the vehicle through the automatic transmission. This is normal hybrid operating and helps deliver fuel efficiency and performance.

### Battery

Your hybrid vehicle has a high voltage battery. A cool battery maintains battery life and provides the best possible performance. The air conditioning system cools the high voltage battery. When the air conditioning system is on and cooling the battery, there could be a slight increase in air temperature coming from the climate control vents.

During extended downhill driving, the engine continues to run instead of shutting off. During this engine braking, the engine stays on, but it is not using any fuel. You could also hear a slight whine or whistle when operating your vehicle. This is the normal operation of the electric motor in the hybrid system.

# Unique Driving Characteristics - Hybrid Electric Vehicle (HEV)

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## Braking

Your hybrid vehicle has standard hydraulic braking and regenerative braking. The transmission performs regenerative braking. It captures brake energy and stores it in the high voltage battery. The transmission changes gears while decelerating and captures the maximum energy back into the high voltage battery.

## Driving to Optimize Fuel Economy

Your fuel economy should improve throughout the hybrid vehicle break-in period. As with any vehicle, your driving habits and accessory usage can significantly impact your fuel economy. For best results, keep these tips in mind:

- Properly inflate the recommended size tires.
- Aggressive driving increases the amount of energy your vehicle requires to move. In general, you can achieve better fuel economy with mild to moderate acceleration and deceleration. Moderate braking is particularly important since it allows you to maximize the energy the regenerative braking system captures.

Additional tips:

- Do not carry extra loads.
- Be mindful of adding external accessories that could increase aerodynamic drag.
- Observe posted speed limits.
- Perform all scheduled maintenance.
- There is no need to wait for the engine to warm up. Your vehicle is immediately ready to drive after starting.

**Note:** *Having the engine running is not always an indication of inefficiency. In some cases, it is actually more efficient than driving in electric mode.*

# Unique Driving Characteristics - Hybrid Electric Vehicle (HEV)

## HYBRID VEHICLE FREQUENTLY ASKED QUESTIONS

Question	Answer
What are the series of clicks from the cargo area when I first turn the key in the ignition?	The high voltage battery is electrically isolated from the rest of the vehicle when the key is off. When you switch the key on, high voltage contactors inside the battery are closed to make the electricity available to the motor and generator and enable the vehicle to drive. The clicks are the sound of these contactors as they close and open during start up and shut down.
Why does the engine sometimes start at key-on?	The vehicle's computer determines if an engine start is required at key-on. Silent key starts the engine if it is necessary for cabin heating, windshield defrost, or if the outside temperature is low.
Why does it take a long time before the engine shuts down?	There are several reasons the engine stays on for an extended amount of time when you first start it. One common reason is to make sure that the emissions components are warm enough to minimize tailpipe emissions. As the climate gets cooler, this engine-on time is extended.
Why does my engine stay on when it is extremely cold outside?	In order to make sure that the climate control system can begin heating the cabin or defrosting the windshield as soon as you request it, the engine coolant temperature has to be kept sufficiently hot. Keeping the engine on is required to maintain the correct coolant temperature.
Can I put E15 or E85 in my vehicle, and how will it affect my fuel economy?	Your hybrid vehicle can use E15 fuel (15% ethanol, 85% gasoline), but you could notice slightly reduced fuel economy because ethanol contains less energy per gallon than gasoline. Your hybrid vehicle is not designed to use E85 (85% ethanol).
How long will my high voltage battery last? Does it need maintenance?	The high voltage battery system is designed to last the life of the vehicle and requires no maintenance.



# Fuel and Refueling

## SAFETY PRECAUTIONS



**WARNING:** Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.



**WARNING:** The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.



**WARNING:** Fuels can cause serious injury or death if misused or mishandled.



**WARNING:** Fuel may contain benzene, which is a cancer-causing agent.



**WARNING:** When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

- Avoid inhaling fuel vapors. Inhaling fuel vapor can lead to eye and respiratory tract irritation. In severe cases, excessive or prolonged breathing of fuel vapor can cause serious illness and permanent injury.
- Avoid getting fuel in your eyes. If you splash fuel in your eyes, immediately remove contact lenses (if worn), flush with water for 15 minutes and seek medical attention. Failure to seek proper medical attention could lead to permanent injury.
- Fuels can be harmful if absorbed through the skin. If you splash fuel on your skin, clothing or both, promptly remove contaminated clothing and thoroughly wash your skin with soap and water. Repeated or prolonged skin contact causes skin irritation.
- Be particularly careful if you are taking Antabuse or other forms of Disulfiram for the treatment of alcoholism. Breathing fuel vapors could cause an adverse reaction, serious personal injury or sickness. Immediately call a physician if you experience any adverse reactions.

Follow these guidelines when refueling:

- Extinguish all smoking materials and any open flames before refueling your vehicle.
- Always switch the engine off before refueling.
- Automotive fuels can be harmful or fatal if swallowed. Fuel is highly toxic and if swallowed can cause death or permanent injury. If fuel is swallowed immediately call a physician, even if no symptoms are immediately apparent. The toxic effects of fuel may not be apparent for hours.

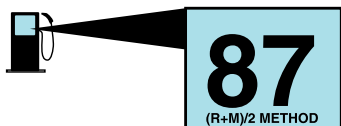
## FUEL QUALITY - E85

### Choosing the Right Fuel - Flex Fuel Vehicles

Flex fuel vehicles have one of the following identifiers:

- Yellow fuel filler cap.
- Yellow bezel around the fuel filler inlet.
- Yellow fuel filler housing.
- Yellow E85 label on the fuel tank filler door.

# Fuel and Refueling



Your vehicle is designed to operate on regular unleaded gasoline with a minimum pump (R+M)/2 octane rating of 87 or regular unleaded gasoline blended with a maximum of 85% ethanol (E85).

Some fuel stations, particularly those in high altitude areas, offer fuels posted as regular unleaded gasoline with an octane rating below 87. The use of these fuels could result in engine damage that will not be covered by the vehicle warranty.

For best overall vehicle and engine performance, premium fuel with an octane rating of 91 or higher is recommended. The performance gained by using premium fuel is most noticeable in hot weather as well as other conditions, for example when towing a trailer. See **Towing** (page 185).

Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

We recommend Top Tier detergent gasolines, where available to help minimize engine deposits and maintain optimal vehicle and engine performance. For additional information, refer to [www.toptiergas.com](http://www.toptiergas.com).

**Note:** *Use of any fuel for which the vehicle was not designed can impair the emission control system, cause loss of vehicle performance, and cause damage to the engine which may not be covered by the vehicle Warranty.*

Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuels containing more than 85% ethanol or E100 fuel.
- Fuels containing methanol.
- Fuels containing metallic-based additives, including manganese-based compounds.
- Fuels containing the octane booster additive, methylcyclopentadienyl manganese tricarbonyl (MMT).
- Leaded fuel, using leaded fuel is prohibited by law.

The use of fuels with metallic compounds such as methylcyclopentadienyl manganese tricarbonyl (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

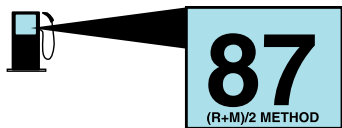
## Switching Between E85 and Gasoline

We do not recommend repeatedly alternating between E85 and gasoline. If you switch from using E85 to gasoline, or from gasoline to E85, add as much fuel as possible, at least half a tank. Drive your vehicle immediately for a minimum of 5 mi (8 km) to allow it to adapt to the change in ethanol concentration. If you use E85 exclusively, we recommend that you fill the fuel tank with regular unleaded gasoline at each scheduled oil change.

# Fuel and Refueling

## FUEL QUALITY - GASOLINE

### Choosing the Right Fuel



Your vehicle is designed to operate on regular unleaded gasoline with a minimum pump (R+M)/2 octane rating of 87.

Some fuel stations, particularly those in high altitude areas, offer fuels posted as regular unleaded gasoline with an octane rating below 87. The use of these fuels could result in engine damage that will not be covered by the vehicle warranty.

For best overall vehicle and engine performance, premium fuel with an octane rating of 91 or higher is recommended. The performance gained by using premium fuel is most noticeable in hot weather as well as other conditions, for example when towing a trailer. See **Towing** (page 185).

Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

We recommend Top Tier detergent gasolines, where available to help minimize engine deposits and maintain optimal vehicle and engine performance. For additional information, refer to [www.toptiergas.com](http://www.toptiergas.com).

**Note:** Use of any fuel for which the vehicle was not designed can impair the emission control system, cause loss of vehicle performance, and cause damage to the engine which may not be covered by the vehicle Warranty.

Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuel containing more than 15% ethanol or E85 fuel.
- Fuels containing methanol.
- Fuels containing metallic-based additives, including manganese-based compounds.
- Fuels containing the octane booster additive, methylcyclopentadienyl manganese tricarbonyl (MMT).
- Leaded fuel, using leaded fuel is prohibited by law.

The use of fuels with metallic compounds such as methylcyclopentadienyl manganese tricarbonyl (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

## FUEL FILLER FUNNEL LOCATION

The fuel filler funnel is in the spare wheel storage tray.

## RUNNING OUT OF FUEL

Running out of fuel can cause damage not covered by the vehicle Warranty.

# Fuel and Refueling

If your vehicle runs out of fuel:

- Add a minimum of 1.3 gal (5 L) of fuel to restart the engine.
- You may need to switch the ignition from off to on several times after refueling to allow the fuel system to pump the fuel from the tank to the engine. When restarting, cranking time takes a few seconds longer than normal.

**Note:** *If your vehicle is on a steep slope, more fuel may be required.*

## Filling a Portable Fuel Container



**WARNING:** Flow of fuel through a fuel pump nozzle can produce static electricity. This can cause a fire if you are filling an ungrounded fuel container.

Use the following guidelines to avoid electrostatic charge build-up, which can produce a spark, when filling an ungrounded fuel container:

- Only use an approved fuel container to transfer fuel to your vehicle. Place the container on the ground when filling it.
- Do not fill a fuel container when it is inside your vehicle (including the cargo area).
- Keep the fuel pump nozzle in contact with the fuel container when filling it.
- Do not use a device that holds the fuel pump nozzle lever in the fill position.

## Adding Fuel From a Portable Fuel Container



**WARNING:** Do not insert the nozzle of a fuel container or an aftermarket funnel into the fuel filler neck. This may damage the fuel system filler neck or its seal and cause fuel to run onto the ground.



**WARNING:** Do not try to pry open or push open the capless fuel system with foreign objects. This could damage the fuel system and its seal and cause injury to you or others.



**WARNING:** Do not dispose of fuel in the household refuse or the public sewage system. Use an authorized waste disposal facility.

When refueling the vehicle fuel tank from a fuel container, use the fuel filler funnel included with your vehicle. See **Fuel Filler Funnel Location** (page 128).

**Note:** *Do not use aftermarket funnels as they may not work with the capless fuel system and can damage it.*

When refueling the vehicle fuel tank from a fuel container, do the following:

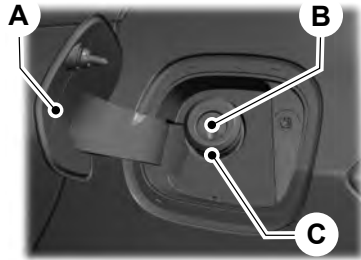
1. Fully open the fuel filler door.
2. Fully insert the fuel filler funnel into the fuel filler inlet.

# Fuel and Refueling



## REFUELING - EXCLUDING: HYBRID ELECTRIC VEHICLE (HEV)

### Refueling System Overview



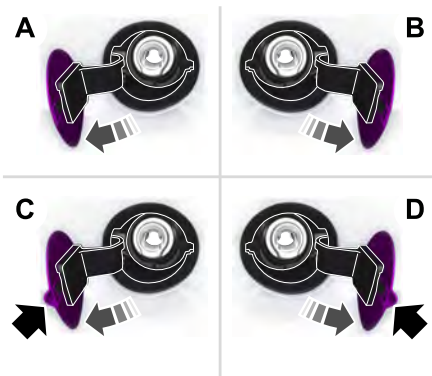
3. Add fuel to your vehicle from the fuel container.
4. Remove the fuel filler funnel.
5. Fully close the fuel filler door.
6. Clean the fuel filler funnel and place it back in your vehicle or correctly dispose of it.

**Note:** *Extra funnels can be purchased from an authorized dealer if you choose to dispose of the funnel.*

- A Fuel filler door.
- B Fuel tank filler valve.
- C Fuel tank filler pipe.

Your vehicle does not have a fuel tank filler cap.

# Fuel and Refueling



- A Left-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.
- B Right-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.
- C Left-hand side. Pull the rear of the fuel filler door to open it.
- D Right-hand side. Pull the rear of the fuel filler door to open it.

## Refueling Your Vehicle

**WARNING:** When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

**WARNING:** The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

**WARNING:** Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

**WARNING:** Do not remove the fuel pump nozzle from its fully inserted position when refueling.

**WARNING:** Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

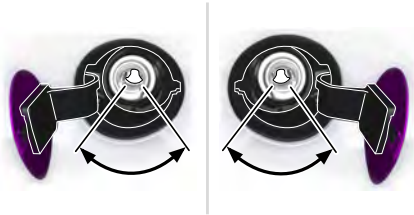
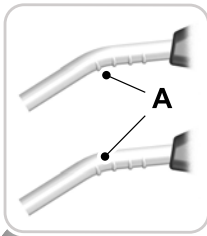
**WARNING:** Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

**WARNING:** Wait at least five seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

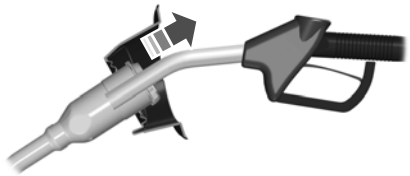
**WARNING:** Read and follow all the instructions on the pump island.

1. Fully open the fuel filler door.
2. Select the correct fuel pump nozzle for your vehicle.

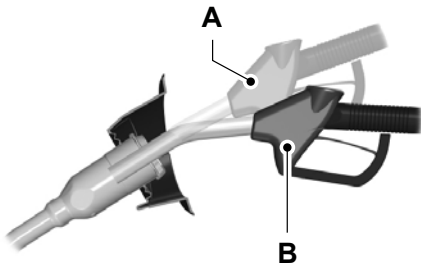
# Fuel and Refueling



5. Operate the fuel pump nozzle within the area shown.



3. Insert the fuel pump nozzle up to the first notch on the nozzle A. Keep the fuel pump nozzle resting on the fuel tank filler pipe.



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4. Hold the fuel pump nozzle in position B when refueling. Holding the fuel pump nozzle in position A can affect the flow of fuel and shut off the fuel pump nozzle before the fuel tank is full.

6. When the nozzle shuts off, wait at least 5 seconds, then slightly raise the fuel pump nozzle and slowly remove it.
7. Fully close the fuel filler door.

Do not attempt to start the engine if you have filled the fuel tank with incorrect fuel. Incorrect fuel use could cause damage that the vehicle Warranty may not cover. See your authorized dealer immediately.

## Refueling System Warning (If Equipped)

If the fuel tank filler valve does not fully close, a message could appear in the information display.

Message
Check Fuel Fill Inlet

If the message appears, do the following:


1. Stop your vehicle as soon as it is safe to do so and switch the engine off.
2. Shift into park (P) or neutral (N).


# Fuel and Refueling


3. Apply the parking brake.
4. Fully open the fuel filler door.
5. Check the fuel tank filler valve for any debris that may be restricting its movement.
6. Remove any debris from the fuel tank filler valve.
7. Fully insert a fuel pump nozzle or the fuel filler funnel provided with your vehicle into the fuel filler pipe. See **Fuel Filler Funnel Location** (page 128). This action should dislodge any debris that may be preventing the fuel tank filler valve from fully closing.
8. Remove the fuel pump nozzle or fuel filler funnel from the fuel filler pipe.
9. Fully close the fuel filler door.


**Note:** *The message may not immediately reset. If the message continues to appear and a warning lamp illuminates, see your authorized dealer as soon as possible.*


## REFUELING - HYBRID ELECTRIC VEHICLE (HEV)


 **WARNING:** When refueling always shut the engine off and never allow sparks or open flames near the fuel tank filler valve. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.


 **WARNING:** The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.


 **WARNING:** Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

 **WARNING:** Do not remove the fuel pump nozzle from its fully inserted position when refueling.

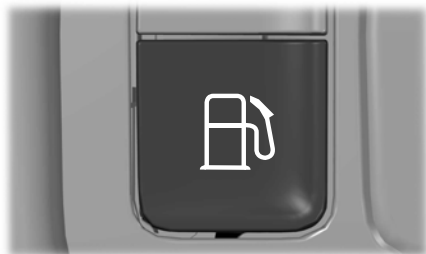
 **WARNING:** Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

 **WARNING:** Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.

 **WARNING:** Wait at least five seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

 **WARNING:** Read and follow all the instructions on the pump island.

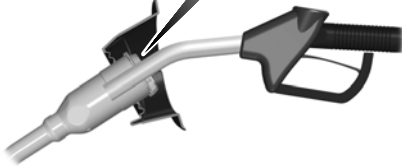
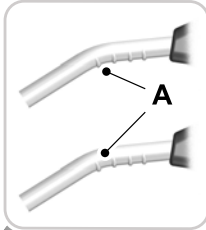
1. When you stop your vehicle, shift into park (P) and switch the ignition off.



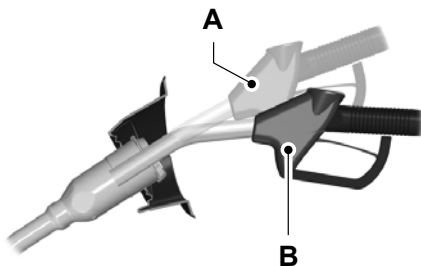


# Fuel and Refueling

- Press the button on the left side of the instrument panel next to the headlamp switch to open the fuel filler door. The fuel filler door can take up to 15 seconds to open before you can insert a fuel filler nozzle.

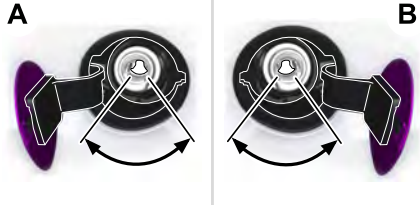


- Insert the fuel pump nozzle up to the first notch on the nozzle A. Keep it resting on the cover of the fuel tank filler pipe opening.

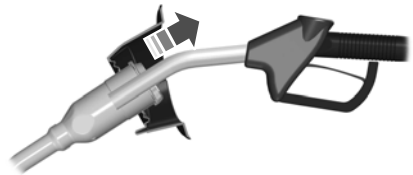


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- Hold the fuel pump nozzle in position B when refueling. Holding the fuel pump nozzle in position A can affect the flow of fuel and shut off the fuel pump nozzle before the fuel tank is full.



- Operate the fuel pump nozzle within the area shown.



- When the pump shuts off, wait 5 seconds, then slowly lift and remove the nozzle.
- Fully close the fuel filler door.

**Note:** To close the fuel filler door, press the center rear edge of the fuel filler door and then release.

Complete the refueling process within 20 minutes. If 20 minutes elapses, press the button on the left side of the instrument panel again. Fuel pump nozzle automatic shut off could occur if you do not press the button on the left side instrument panel.

## System Warnings

If the fuel filler door fails to open, an information message appears in the information display.

# Fuel and Refueling

Message	Description and Action
Refuel Error See Manual	A warning message appears in the information display when the fuel system fails to depressurize or the fuel filler door fails to open. You may have to use the fuel filler door manual override lever.

If the information message appears, do the following:

1. Check the fuel filler door for anything that may be obstructing its movement, for example ice or snow.
2. Remove any obstruction from the fuel filler door.
3. Press the button on the driver door to open the fuel filler door.
4. If the fuel filler door fails to open and the information message remains in the information display, use the fuel filler door manual override lever.

## Fuel Filler Door Manual Override Lever

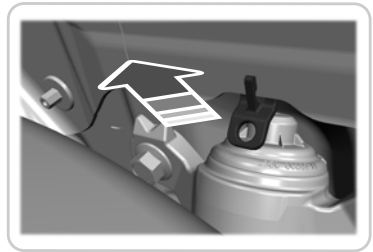


**WARNING:** The fuel system may be under pressure. If you hear a hissing sound near the fuel filler inlet, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

**Note:** The transmission must be in park (P) or neutral (N).

When using the manual override lever do the following:

1. Switch the ignition on.



**Note:** The manual override lever is in the driver side rear wheel well area.

2. Pull the manual override lever.
3. Switch the ignition off.
4. Complete the refueling process within 20 minutes.

## FUEL CONSUMPTION

### Advertised Capacity

The advertised capacity is the maximum amount of fuel that you can add to the fuel tank when the fuel gauge indicates empty. See **Capacities and Specifications** (page 279).

# Fuel and Refueling

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In addition, the fuel tank contains an empty reserve. The empty reserve is an unspecified amount of fuel that remains in the fuel tank when the fuel gauge indicates empty.

**Note:** *The amount of fuel in the empty reserve varies and should not be relied upon to increase driving range.*

## Calculating Fuel Economy

Your vehicle calculates fuel economy figures through the trip computer average fuel function. See **Information Displays** (page 84).

The first 1,000 mi (1,600 km) of driving is the break-in period of the vehicle. A more accurate measurement is obtained after 2,000–3,000 mi (3,200–4,800 km).

1. Completely fill the fuel tank and record the initial odometer reading. See **Refueling** (page 133).
2. Each time you fill the fuel tank, record the amount of fuel added.
3. After at least three fill ups, fill the fuel tank and record the current odometer reading.
4. Subtract your initial odometer reading from the current odometer reading.

To calculate L/100 km (liters per 100 kilometers) fuel consumption, multiply the liters used by 100, then divide by kilometers traveled. To calculate MPG (miles per gallon) fuel consumption, divide miles traveled by gallons used.

Keep a record for at least one month and record the type of driving, for example city or highway. This provides an accurate estimate of your vehicle's fuel economy under current driving conditions. Keeping records during summer and winter shows how temperature impacts fuel economy.

## Conditions Influencing Fuel Efficiency

- Carrying unnecessary weight in your vehicle will reduce fuel efficiency.
- Avoid adding accessories that increase aerodynamic drag to your vehicle such as bug deflectors, car top carriers and ski or bike racks.
- Remove empty roof racks and keep windows shut at high speeds to reduce wind resistance and fuel use.
- Check and adjust tire pressure regularly. Under inflated tires will increase fuel consumption.
- Sudden acceleration and braking degrade fuel efficiency. Drive smoothly looking as far ahead as possible and avoid short trips when possible.
- Fuel efficiency degrades with lower temperatures.
- Comfort Features use additional energy and consume more fuel. Use AC and other comfort features only when necessary.
- Using fuel blended with alcohol may increase fuel consumption.

# Engine Emission Control

## EMISSION LAW



**WARNING:** Do not remove or alter the original equipment floor covering or insulation between it and the metal floor of the vehicle. The floor covering and insulation protect occupants of the vehicle from the engine and exhaust system heat and noise. On vehicles with no original equipment floor covering insulation, do not carry passengers in a manner that permits prolonged skin contact with the metal floor. Failure to follow these instructions may result in fire or personal injury.

U.S. federal laws and certain state laws prohibit removing or rendering inoperative emission control system components. Similar federal or provincial laws may apply in Canada. We do not approve of any vehicle modification without first determining applicable laws.



Tampering with emissions control systems including related sensors or the Diesel Exhaust Fluid system can result in reduced engine power and the illumination of the service engine soon light.

## Tampering With a Noise Control System

Federal laws prohibit the following acts:

- Removal or rendering inoperative by any person other than for purposes of maintenance.
- Repair or replacement of any device or element of the design incorporated into a new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use.
- The use of the vehicle after any person removes or renders inoperative any device or element of the design.

The U.S. Environmental Protection Agency may presume to constitute tampering as follows:

- Removal of hood blanket, fender apron absorbers, fender apron barriers, underbody noise shields or acoustically absorptive material.
- Tampering or rendering inoperative the engine speed governor, to allow engine speed to exceed manufacturer specifications.

If the engine does not start, runs rough, experiences a decrease in engine performance, experiences excess fuel consumption or produces excessive exhaust smoke, check for the following:

- A plugged or disconnected air inlet system hose.
- A plugged engine air filter element.
- Water in the fuel filter and water separator.
- A clogged fuel filter.
- Contaminated fuel.
- Air in the fuel system, due to loose connections.
- An open or pinched sensor hose.
- Incorrect engine oil level.

# Engine Emission Control

- Incorrect fuel for climatic conditions.
- Incorrect engine oil viscosity for climactic conditions.

**Note:** *Some vehicles have a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.*

**Note:** *If these checks do not help you correct the concern, have your vehicle checked as soon as possible.*

## Noise Emissions Warranty, Prohibited Tampering Acts and Maintenance

On January 1, 1978, Federal regulation became effective governing the noise emission on trucks over 10,000 lb (4,536 kg) Gross Vehicle Weight Rating (GVWR). The preceding statements concerning prohibited tampering acts and maintenance, and the noise warranty found in the Warranty Guide, are applicable to complete chassis cabs over 10,000 lb (4,536 kg) GVWR.

## CATALYTIC CONVERTER



**WARNING:** Do not park, idle or drive your vehicle on dry grass or other dry ground cover. The emission system heats up the engine compartment and exhaust system, creating the risk of fire.



**WARNING:** The normal operating temperature of the exhaust system is very high. Never work around or attempt to repair any part of the exhaust system until it has cooled. Use special care when working around the catalytic converter. The catalytic converter heats up to a very high temperature after only a short period of engine operation and stays hot after the engine is switched off.



**WARNING:** Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

Your vehicle has various emission control components and a catalytic converter that enables it to comply with applicable exhaust emission standards.

To make sure that the catalytic converter and other emission control components continue to work properly:

- Do not crank the engine for more than 10 seconds at a time.
- Do not run the engine with a spark plug lead disconnected.
- Do not push-start or tow-start your vehicle. Use booster cables. See **Jump Starting the Vehicle** (page 196).
- Use only the specified fuel listed.
- Do not switch the ignition off when your vehicle is moving.
- Avoid running out of fuel.
- Have the items listed in scheduled maintenance information performed according to the specified schedule.

**Note:** *Resulting component damage may not be covered by the vehicle Warranty.*

The scheduled maintenance items listed in scheduled maintenance information are essential to the life and performance of your vehicle and to its emissions system.

If you use anything other than Ford, Motorcraft or Ford-authorized parts for maintenance replacements or for service of components affecting emission control, such non-Ford parts should be equivalent to genuine Ford Motor Company parts in performance and durability.

# Engine Emission Control

Illumination of the service engine soon indicator, charging system warning light or the temperature warning light, fluid leaks, strange odors, smoke or loss of engine power could indicate that the emission control system is not working properly.

An improperly operating or damaged exhaust system may allow exhaust to enter the vehicle. Have a damaged or improperly operating exhaust system inspected and repaired immediately.

Do not make any unauthorized changes to your vehicle or engine. By law, vehicle owners and anyone who manufactures, repairs, services, sells, leases, trades vehicles, or supervises a fleet of vehicles are not permitted to intentionally remove an emission control device or prevent it from working. Information about your vehicle's emission system is on the Vehicle Emission Control Information Decal located on or near the engine. This decal also lists engine displacement.

Please consult your warranty information for complete details.

## On-Board Diagnostics (OBD-II)

Your vehicle has a computer known as the on-board diagnostics system (OBD-II) that monitors the engine's emission control system. The system protects the environment by making sure that your vehicle continues to meet government emission standards. The OBD-II system also assists a service technician in properly servicing your vehicle.



When the service engine soon indicator illuminates, the OBD-II system has detected a malfunction. Temporary malfunctions may cause the service engine soon indicator to illuminate. Examples are:

1. Your vehicle has run out of fuel—the engine may misfire or run poorly.
2. Poor fuel quality or water in the fuel—the engine may misfire or run poorly.
3. The fuel fill inlet may not have closed properly. See **Refueling** (page 130).
4. Driving through deep water—the electrical system may be wet.

You can correct these temporary malfunctions by filling the fuel tank with good quality fuel, properly closing the fuel fill inlet or letting the electrical system dry out. After three driving cycles without these or any other temporary malfunctions present, the service engine soon indicator should stay off the next time you start the engine. A driving cycle consists of a cold engine startup followed by mixed city and highway driving. No additional vehicle service is required.

If the service engine soon indicator remains on, have your vehicle serviced at the first available opportunity. Although some malfunctions detected by the OBD-II may not have symptoms that are apparent, continued driving with the service engine soon indicator on can result in increased emissions, lower fuel economy, reduced engine and transmission smoothness and lead to more costly repairs.

## Readiness for Inspection and Maintenance (I/M) Testing

Some state and provincial and local governments may have Inspection/Maintenance (I/M) programs to inspect the emission control equipment on your vehicle. Failure to pass this inspection could prevent you from getting a vehicle registration.



If the service engine soon indicator is on or the bulb does not work, your vehicle may need service. See On-Board Diagnostics.

# Engine Emission Control

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Your vehicle may not pass the I/M test if the service engine soon indicator is on or not working properly (bulb is burned out), or if the OBD-II system has determined that some of the emission control systems have not been properly checked. In this case, the vehicle is not ready for I/M testing.

If the vehicle's engine or transmission has just been serviced, or the battery has recently run down or been replaced, the OBD-II system may indicate that the vehicle is not ready for I/M testing. To determine if the vehicle is ready for I/M testing, turn the ignition key to the on position for 15 seconds without cranking the engine. If the service engine soon indicator blinks eight times, it means that the vehicle is not ready for I/M testing; if the service engine soon indicator stays on solid, it means that your vehicle is ready for I/M testing.

The OBD-II system checks the emission control system during normal driving. A complete check may take several days.

If the vehicle is not ready for I/M testing, you can perform the following driving cycle consisting of mixed city and highway driving:

1. 15 minutes of steady driving on an expressway or highway followed by 20 minutes of stop-and-go driving with at least four 30-second idle periods.
2. Allow your vehicle to sit for at least eight hours with the ignition off. Then, start the vehicle and complete the above driving cycle. The vehicle must warm up to its normal operating temperature. Once started, do not turn off the vehicle until the above driving cycle is complete.

If the vehicle is still not ready for I/M testing, you need to repeat the above driving cycle.

# High Voltage Battery (If Equipped)

## GENERAL INFORMATION - HYBRID ELECTRIC VEHICLE (HEV)



**WARNING:** This battery pack should only be serviced by an authorized electric vehicle technician. Improper handling can result in personal injury or death.



**WARNING:** Apply the parking brake, shift into park (P), switch the ignition off and remove the key before you open the hood or have any service or repair work completed. If you do not switch the ignition off, the engine could restart at any time. Failure to follow this instruction could result in personal injury or death.



**WARNING:** Do not touch the electronic ignition system parts after you have switched the ignition on or when the engine is running. The system operates at high voltage. Failure to adhere to this warning could result in serious personal injury or death.



**WARNING:** Keep your hands and clothing clear of the engine cooling fan.

The high-voltage battery system is a high-voltage, lithium-ion battery system. The pack is located underneath the vehicle. The high voltage battery system uses an advanced active liquid heating and cooling system to regulate high voltage battery temperature and help maximize the life of the high voltage battery.

**Note:** *The high-voltage battery does not require regular service maintenance.*

Your vehicle consists of various high-voltage components and wiring. All of the high-voltage power flows through specific wiring assemblies labeled as such or covered with a solid orange convolute, or orange striped tape, or both. Do not come in contact with these components.



# Transmission

## AUTOMATIC TRANSMISSION



**WARNING:** Apply the parking brake, shift into park (P), switch the ignition off and remove the key before you leave your vehicle. Failure to follow this instruction could result in personal injury or death.



**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.

## Understanding the Positions of Your Automatic Transmission

### Putting your vehicle in or out of gear:

1. Fully press down the brake pedal.
2. Move the gearshift lever into the desired gear.
3. Come to a complete stop.
4. Move the gearshift lever and securely latch it in park (P).



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### Park (P)

This position locks the transmission and prevents the wheels from turning.

### Reverse (R)

With the gearshift lever in reverse (R), your vehicle moves backward. Always come to a complete stop before shifting into and out of reverse (R).

### Neutral (N)

With the gearshift lever in neutral (N), you can start your vehicle and it is free to roll. Hold the brake pedal down while in this position.

### Drive (D)

Drive (D) is the normal driving position for the best fuel economy. The overdrive function allows automatic upshifts and downshifts through gears 1 through 10.

### Low (L)

The low (L) button is at the end of the column shifter. Activating low (L) gear:

- Provides maximum engine braking.
- Downshifts to the lowest available gear for the current vehicle speed. Allows for first gear when the vehicle reaches lower speeds.
- Is not for use under extended or normal driving conditions and results in lower fuel economy.

The instrument cluster displays the current gear.

## If Your Vehicle Gets Stuck in Mud or Snow

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

# Transmission

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

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

# All-Wheel Drive

## USING ALL-WHEEL DRIVE



**WARNING:** Vehicles with a higher center of gravity (utility and four-wheel drive vehicles) handle differently than vehicles with a lower center of gravity (passenger cars). Avoid sharp turns, excessive speed and abrupt steering in these vehicles. Failure to drive cautiously increases the risk of losing control of your vehicle, vehicle rollover, personal injury and death.

All-wheel drive uses all four wheels to power the vehicle. This increases traction, enabling you to drive over terrain and road conditions that a conventional two-wheel drive vehicle cannot. The AWD system is always active and requires no input from the operator.

**Note:** *Your AWD vehicle is not intended for off-road use. The AWD feature gives your vehicle some limited off-road capabilities when driving surfaces are relatively level, obstruction-free and otherwise similar to normal on-road driving conditions. Operating your vehicle under conditions other than those could subject the vehicle to excessive stress which could result in damage not covered under your vehicle warranty.*

**Note:** *The transfer case and front axle in police vehicles does not require any normal scheduled maintenance. The system is electronically monitored and notifies you of required service in the information display. The front axle lube is more likely to require a fluid change if the vehicle has experienced extended periods of extreme/severe duty cycle driving. Severe duty cycle driving such as Driver Training or EVOC. See **Scheduled Maintenance** (page 326). Do not check or change the transfer case and front axle lubricant unless the unit shows signs of leakage or displays a message indicating required service. Contact an authorized dealer for service if the front driveline was submerged in water and to reset any driveline temperature lube life monitors.*

When an AWD system fault is present, and the system is overheated or if service is required, there will be message that is display in the information display of the fault. The display messages, along with the triggering actions and description of the message, are shown in the following table:

# All-Wheel Drive

## All-Wheel Drive Messages

<b>AWD Messages</b>	<b>Action / Description</b>
AWD OFF	Displayed when the system has been automatically disabled to protect itself. This is caused by operating the vehicle with the compact spare tire installed or if the system is overheating. The system will resume normal function and clear this message after cycling the ignition on and off and driving a short distance with the road tire re-installed or after the system is allowed to cool.
AWD Restored	Displayed when the all wheel drive system resumes normal function and clears this message after driving a short distance with the road tire re-installed or after the system cools.
AWD Temporarily Disabled	Displayed when the all wheel drive system has automatically disabled itself due to the system overheating.
AWD Temporarily Locked	Displayed when the all wheel drive system needs to temporarily lock to help reduce the heat in the AWD torque actuator.
AWD Malfunction Service Required	Displayed in conjunction with the power-train malfunction/reduced power light when the system is not operating properly. If the warning stays on or continues to come on, contact your authorized dealer as soon as possible.

Never use a spare tire of a different size other than the tire provided. The AWD system will disable and enter rear-wheel drive only mode to protect driveline components if a non-full sized tire is installed. Some limited AWD traction could be provided if a mini-spare is installed on one of the front wheels. If you are in driving conditions where limited AWD traction is needed while a mini-spare is installed, it is recommended the mini-spare be installed on the front axle.

If a mini-spare is installed, this condition is indicated by a message in the information display. If there is a message in the information display from using a non-full sized spare tire, this indicator should turn off after reinstalling the repaired or replaced normal road tire and cycling the ignition off and on. It is recommended to

# All-Wheel Drive

reinstall the repaired or replaced road tire as soon as possible. Major dissimilar tire sizes between the front and rear axles could cause the AWD system to stop functioning and default to rear-wheel drive or damage the AWD system.

## Operating AWD Vehicles With Mismatched Tires



**WARNING:** Only use replacement tires and wheels that are the same size, load index, speed rating and type (such as P-metric versus LT-metric or all-season versus all-terrain) as those originally provided by Ford. The recommended tire and wheel size may be found on either the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or the Tire Label which is located on the B-Pillar or edge of the driver's door. If this information is not found on these labels, then you should contact your authorized dealer as soon as possible. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

Major dissimilar tire sizes between the front and rear axles (for example, 17 inch low profile tires on the front axle and 22 inch high profile tires on the rear axle) could cause the AWD system to stop functioning and default to rear-wheel drive or damage the AWD system. For optimum AWD Performance, it is recommended to follow the tire rotation maintenance schedule. To avoid potential AWD malfunction or AWD system damage, it is recommended to replace all four tires rather than mixing

significantly worn tires with new tires. For example, using 3 worn tread tires and 1 new tread tire all of the same original tire size/brand and can be tolerated by the AWD system as long as the worn tires still have usable tread depth.

## How Utility Vehicles Differ from Other Vehicles

Truck and utility vehicles can differ from some other vehicles. Your vehicle may be higher to allow it to travel over rough terrain without getting hung up or damaging underbody components.

The differences that make your vehicle so versatile also make it handle differently than an ordinary passenger car.

Maintain steering wheel control at all times, especially in rough terrain. Since sudden changes in terrain can result in abrupt steering wheel motion, make sure you grip the steering wheel from the outside. Do not grip the spokes.

Drive cautiously to avoid vehicle damage from concealed objects such as rocks and stumps.

You should either know the terrain or examine maps of the area before driving. Map out your route before driving in the area. To maintain steering and braking control of your vehicle, you must have all four wheels on the ground and they must be rolling, not sliding or spinning.

## Driving In Special Conditions With All-Wheel Drive (AWD)

**Note:** *Use of AWD in slippery, deep snow, and sand drive modes on dry surfaces could produce some vibration and driveline bind up, and or excessive tire wear as these drive modes are intended for slippery and loose surfaces.*

# All-Wheel Drive

AWD vehicles are equipped 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 highway.

Under severe operating conditions, the A/C may cycle on and off to protect overheating of the engine.

## Basic operating principles in special conditions

- Drive slower in strong crosswinds which can affect the normal steering characteristics of your vehicle.
- Be extremely careful when driving on pavement made slippery by loose sand, water, gravel, snow or ice.

## If Your Vehicle Goes Off the Edge of the Pavement

- If your vehicle goes off the edge of the pavement, slow down, but avoid severe brake application, ease the vehicle back onto the pavement only after reducing your speed. Do not turn the steering wheel too sharply while returning to the road surface.
- It may be safer to stay on the apron or shoulder of the road and slow down gradually before returning to the pavement. You may lose control if you do not slow down or if you turn the steering wheel too sharply or abruptly.
- It often may be less risky to strike small objects, such as highway reflectors, with minor damage to your vehicle rather than attempt a sudden return to the pavement which could cause the vehicle to slide sideways out of control or rollover. Remember, your safety and the safety of others should be your primary concern.

## If Your Vehicle Gets Stuck



**WARNING:** Apply the parking brake, shift into park (P), switch the ignition off and remove the key before you leave your vehicle. Failure to follow this instruction could result in personal injury or death.



**WARNING:** If the parking brake is fully released, but the brake warning lamp remains illuminated, the brakes may not be working properly. Have your vehicle checked as soon as possible.



**WARNING:** Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

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.

If your vehicle has AdvanceTrac® with Roll Stability Control™, it may be beneficial to disengage the AdvanceTrac® with Roll Stability Control™ system while attempting to rock the vehicle.

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

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

## Emergency Maneuvers

- In an unavoidable emergency situation where a sudden sharp turn must be made, remember to avoid "over-driving" your vehicle (that is, turn the steering wheel only as rapidly and as far as required to avoid the emergency). Excessive steering will

# All-Wheel Drive

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result in less vehicle control, not more. Additionally, smooth variations of the accelerator and/or brake pedal pressure should be utilized if changes in vehicle speed are called for. Avoid abrupt steering, acceleration or braking which could result in an increased risk of loss of vehicle control, vehicle rollover and/or personal injury. Use all available road surfaces to return the 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 the vehicle goes from one type of surface to another (that is, from concrete to gravel) there will be a change in the way the vehicle responds to a maneuver (steering, acceleration or braking). Again, avoid these abrupt inputs.

## **Sand**

Most of the time traction control improves tire traction by managing wheel slip through Brake, Engine, and AWD calibrations. However, during low speed driving, disabling traction control in deep sand can help keep the wheels moving to maintain vehicle momentum.

When driving over sand, try to keep all four wheels on the most solid area of the trail. Avoid reducing the tire pressures but shift to a lower gear and drive steadily through the terrain. Apply the accelerator slowly and avoid spinning the wheels.

When driving in deep snow or sand, shift into Deep Snow/Sand Mode. See **Selecting a Drive Mode** (page 178).

Do not drive your vehicle in deep sand for an extended period of time. This could cause the AWD system to overheat and default to rear-wheel drive. If this occurs, a message displays in the information display. To resume normal AWD function

as soon as possible, stop the vehicle in a safe location and stop the engine for at least 10 minutes. After the engine is restarted and the AWD system has adequately cooled, the message turns off and normal AWD function returns. In the event the engine is not stopped, the message turns off when the system cools and normal AWD function returns.

When driving at slow speeds in deep sand under high outside temperatures, use L (Low) gear when possible. L (Low) gear operation maximizes the engine and transmission cooling capability.

Avoid excessive speed because vehicle momentum can work against you and cause the vehicle to 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**

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

When driving through water, determine the depth; avoid water higher than the bottom of the wheel rims (for cars) or the bottom of the hubs (for trucks) (if possible) and proceed slowly. If the ignition system gets wet, the vehicle may stall.

**Note:** *Driving through deep water may damage the transmission.*

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

# All-Wheel Drive

Be cautious of sudden changes in vehicle speed or direction when you are driving in mud. Even AWD vehicles can lose traction in slick mud. As when you are driving over sand, apply the accelerator slowly and avoid spinning your wheels. If the vehicle does slide, steer in the direction of the slide until you regain control of the vehicle.

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

If the front or rear axle is submerged in water, have the front driveline serviced by an authorized dealer.



“Tread Lightly” is an educational program designed to increase public awareness of land-use regulations and responsibilities in our nations wilderness areas. Ford Motor Company joins the U.S. Forest Service and the Bureau of Land Management in encouraging you to help preserve our national forest and other public and private lands by “treading lightly.”

## 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 driving crosswise or turning on steep slopes or hills. A danger lies in losing traction, slipping sideways and possibly rolling over. Whenever driving on a hill, determine beforehand the route you will use. 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 you do stall out, do not try to turnaround because you might roll over. It is better to back down 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.



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; instead, disengage overdrive or manually shift 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 the vehicle.



# All-Wheel Drive

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

## **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 driveline damage.*

AWD vehicles have advantages over 2WD 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 as well. Although an AWD vehicle may accelerate better than a two-wheel drive vehicle in snow and ice, it will not stop any faster, because as in other vehicles, 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. Since your vehicle has a four wheel (ABS), do not “pump” the brakes. See **Hints on Driving With Anti-Lock Brakes** (page 152).

## **Maintenance and Modifications**

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

Any modifications to a vehicle that raise the center of gravity can make it more likely the vehicle will rollover as a result of a loss of control. We strongly recommend that caution be used with any vehicle equipped with a high load or device (such as ladder or luggage racks).

Failure to maintain your vehicle properly may void the warranty, increase your repair cost, reduce vehicle performance and operational capabilities and adversely affect driver and passenger safety. Frequent inspection of vehicle chassis components is recommended if the vehicle is subjected to off-highway usage.

# Brakes

## GENERAL INFORMATION

**Note:** Occasional brake noise is normal. If a metal-to-metal, continuous grinding or continuous squeal sound is present, the brake linings may be worn-out and an authorized dealer should check them. If the vehicle has continuous vibration or shudder in the steering wheel while braking, an authorized dealer should check your vehicle.

**Note:** Brake dust may accumulate on the wheels, even under normal driving conditions. Some dust is inevitable as the brakes wear and does not contribute to brake noise. See **Cleaning the Wheels** (page 242).

Wet brakes result in reduced braking efficiency. Gently press the brake pedal a few times when driving from a car wash or standing water to dry the brakes.

## Brake Over Accelerator

In the event the accelerator pedal becomes stuck or entrapped, apply steady and firm pressure to the brake pedal to slow the vehicle and reduce engine power. If you experience this condition, apply the brakes and bring your vehicle to a safe stop. Switch the engine off, move the transmission to park (P) and apply the parking brake. Inspect the accelerator pedal and the area around it for any items or debris that may be obstructing its movement. If none are found and the condition persists, have your vehicle towed to the nearest authorized dealer.

## Emergency Brake Assist

Emergency brake assist detects when you brake heavily by measuring the rate at which you press the brake pedal. It provides maximum braking efficiency as long as you press the pedal. Emergency brake assist can reduce stopping distances in critical situations.

## Anti-lock Brake System

This system helps you maintain steering control during emergency stops by keeping the brakes from locking.



This lamp momentarily illuminates when you switch the ignition on or apply the parking brake. If the light does not illuminate during start up, remains on or flashes, except when you switch the ignition on or apply the parking brake, the anti-lock braking system may be disabled. Have the system checked by an authorized dealer. If the anti-lock brake system is disabled, normal braking is still effective. See **Warning Lamps and Indicators** (page 79).

**Note:** Indicators vary depending on region.



This lamp also illuminates momentarily when you switch the ignition on or apply the parking brake to confirm the lamp is working. If it does not illuminate when you switch the ignition on, apply the parking brake, or if it begins to flash at any time, have the system checked by an authorized dealer. If the brake warning lamp illuminates with the parking brake released, have the system checked immediately.

## Regenerative Braking System

This feature is used to simulate the engine braking of an internal combustion engine and assist the standard brake system while recovering some of the energy of motion and storing it in the battery to improve fuel economy. The standard brake system is designed to fully stop the car if regenerative braking is not available. During regenerative braking, the motor is

# Brakes

spun as a generator to create electrical current. This recharges the battery and slows the vehicle. In effect, once the accelerator pedal is released, the motor changes from an energy user to an energy producer.

When you release the accelerator pedal or press the brake pedal, the brake controller automatically detects the amount of deceleration requested and optimizes how much of the deceleration will be produced by regenerative braking. The remaining portion is generated by standard friction braking. When the battery is almost fully charged, the amount of regenerative braking is limited to avoid overcharging, and the requested deceleration is produced by standard friction braking alone.

Regenerative braking does not take the place of the standard friction brakes; it only assists them. Regenerative braking has also been designed to interact with the anti-lock brake system. Regenerative braking is disabled when the anti-lock brake system is activated or the battery is fully charged.

## HINTS ON DRIVING WITH ANTI-LOCK BRAKES

The anti-lock braking system does not eliminate the risks when:

- You drive too closely to the vehicle in front of you.
- Your vehicle is hydroplaning.
- You take corners too fast.
- The road surface is poor.

**Note:** *If the system activates, the brake pedal may pulse and may travel further. Maintain pressure on the brake pedal. You may also hear a noise from the system. This is normal.*

## ELECTRIC PARKING BRAKE



**WARNING:** Always fully apply the parking brake and make sure you shift into park (P). Failure to follow this instruction could result in personal injury or death.



**WARNING:** If you drive extended distances with the parking brake applied, you could cause damage to the brake system.



**WARNING:** The electric parking brake does not operate if the vehicle battery is running out of charge.

Your vehicle has an electric parking brake. You operate it with a switch instead of a lever. The switch is on the center console or to the left-hand side of the steering wheel, on the lower part of the instrument panel.

**Note:** *The electric parking brake makes noises during operation. This is normal.*

## Applying the Electric Parking Brake



Pull the switch upward.



The red warning lamp flashes during operation and illuminates when the parking brake is applied.



**Note:** *It remains illuminated for a short period of time after you switch the ignition off.*

# Brakes

If it continues to flash or does not illuminate, the system has malfunctioned. Have your vehicle checked as soon as possible.

**Note:** You can apply the electric parking brake when the ignition is off.

**Note:** The electric parking brake could automatically apply when you shift into park (P). See **Transmission** (page 142).

## Applying the Electric Parking Brake in an Emergency

**Note:** Do not apply the electric parking brake when your vehicle is moving, except in an emergency. If you repeatedly use the electric parking brake to slow or stop your vehicle, you could cause damage to the brake system.

You can use the electric parking brake to slow or stop your vehicle in an emergency.



Pull the switch upward and hold it.



The red warning lamp illuminates, a tone sounds and the stoplamps turn on.



The electric parking brake continues to slow your vehicle down unless you release the switch.

## Manually Releasing the Electric Parking Brake

Switch the ignition on.

Press and hold the brake pedal.



Push the switch downward.



The red warning lamp turns off.



If it remains illuminated or flashes, the system has malfunctioned. Have your vehicle checked as soon as possible.

## Pulling Away on a Hill When Towing a Trailer

Press and hold the brake pedal.



Pull the switch upward and hold it.

Shift into gear.

Press the accelerator pedal until engine has developed sufficient torque to prevent your vehicle from rolling down the hill.



Release the switch and pull away in a normal manner.

## Automatically Releasing the Electric Parking Brake

Close the driver door.

Shift into gear.

Press the accelerator pedal and pull away in a normal manner.



The red warning lamp turns off.



If it remains illuminated or flashes, the electric parking brake has not released. Manually release the parking brake.

# Brakes

## Releasing the Electric Parking Brake if the Vehicle Battery is Running Out of Charge

Connect a booster battery to the vehicle battery to release the electric parking brake if the vehicle battery is running out of charge. See **Jump Starting the Vehicle** (page 196).

## HILL START ASSIST



**WARNING:** The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake.



**WARNING:** You must remain in your vehicle when the system turns on. At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.



**WARNING:** The system will turn off if a malfunction is apparent or if you rev the engine excessively. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

The system makes it easier to pull away when your vehicle is on a slope without the need to use the parking brake.

When the system is active, your vehicle remains stationary on the slope for two to three seconds after you release the brake pedal. This allows time to move your foot from the brake to the accelerator pedal. The system releases the brakes automatically once the engine has

developed sufficient torque to prevent your vehicle from rolling down the slope. This is an advantage when pulling away on a slope, for example from a car park ramp, traffic lights or when reversing uphill into a parking space.

The system activates on any slope that causes your vehicle to roll.

**Note:** *There is no warning light to indicate the system is either on or off.*

## Using Hill Start Assist

1. Press the brake pedal to bring your vehicle to a complete standstill. Keep the brake pedal pressed and shift into first gear when facing uphill or reverse (R) when facing downhill.
2. If the sensors detect that your vehicle is on a slope, the system activates automatically.
3. When you remove your foot from the brake pedal, your vehicle remains on the slope without rolling away for about two to three seconds. This hold time automatically extends if you are in the process of driving off.
4. Drive off in the normal manner. The system releases the brakes automatically.

**Note:** *When you remove your foot from the brake pedal and press the pedal again when the system is active, you will experience significantly reduced brake pedal travel. This is normal.*

## Switching the System On and Off

### Vehicles with Manual Transmission

You can switch this feature on or off in the information display. The system remembers the last setting when you start your vehicle.

# Brakes

---

## **Vehicles with Automatic Transmission**

You cannot turn the system on or off.  
When you switch the ignition on, the system automatically turns on.

# Traction Control

## PRINCIPLE OF OPERATION

The traction control system helps avoid drive wheel spin and loss of traction.

If your vehicle begins to slide, the system applies the brakes to individual wheels and, when needed, reduces engine power at the same time. If the wheels spin when accelerating on slippery or loose surfaces, the system reduces engine power in order to increase traction.

## USING TRACTION CONTROL



**WARNING:** The stability and traction control light illuminates steadily if the system detects a failure. Make sure you did not manually disable the traction control system using the information display controls or the switch. If the stability control and traction control light is still illuminating steadily, have the system serviced by an authorized dealer immediately. Operating your vehicle with the traction control disabled could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

The system automatically turns on each time you switch the ignition on.

If your vehicle is stuck in mud or snow, switching traction control off may be beneficial as this allows the wheels to spin.

**Note:** *When you switch traction control off, stability control remains fully active.*

## Switching the System Off

When you switch the system off or on, a message appears in the information display showing system status.

You can switch the system off by either using the information display controls or the switch.

## Using the Information Display Controls

You can switch this feature off or on in the information display. See **General Information** (page 84).

## Using a Switch (If Equipped)

Use the traction control switch on the instrument panel to switch the system off or on.

## System Indicator Lights and Messages



The stability and traction control light:

- Temporarily illuminates on engine start-up.
- Flashes when a driving condition activates either of the systems.
- Illuminates if a problem occurs in either of the systems.



The stability and traction control off light temporarily illuminates on engine start-up and stays on when you switch the traction control system off.

# Stability Control

## PRINCIPLE OF OPERATION



**WARNING:** Vehicle modifications involving braking system, aftermarket roof racks, suspension, steering system, tire construction and wheel and tire size may change the handling characteristics of your vehicle and may adversely affect the performance of the electronic stability control system. In addition, installing any stereo loudspeakers may interfere with and adversely affect the electronic stability control system. Install any aftermarket stereo loudspeaker as far as possible from the front center console, the tunnel, and the front seats in order to minimize the risk of interfering with the electronic stability control sensors. Reducing the effectiveness of the electronic stability control system could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.



**WARNING:** Remember that even advanced technology cannot defy the laws of physics. It's always possible to lose control of a vehicle due to inappropriate driver input for the conditions. Aggressive driving on any road condition can cause you to lose control of your vehicle increasing the risk of personal injury or property damage. Activation of the electronic stability control system is an indication that at least some of the tires have exceeded their ability to grip the road; this could reduce the operator's ability to control the vehicle potentially resulting in a loss of vehicle control, vehicle rollover, personal injury and death. If your electronic stability control system activates, SLOW DOWN.

The system automatically turns on each time you switch the ignition on.

If a fault occurs in either the stability control or the traction control system, you may experience the following conditions:

- The stability and traction control light illuminates steadily.
- The stability control and traction control systems do not enhance your vehicle's ability to maintain traction of the wheels.

If a driving condition activates either the stability control or the traction control system you may experience the following conditions:

- The stability and traction control light flashes.
- Your vehicle slows down.
- Reduced engine power.
- A vibration in the brake pedal.
- The brake pedal is stiffer than usual.
- If the driving condition is severe and your foot is not on the brake, the brake pedal may move as the system applies higher brake force.

The stability control system has several features built into it to help you maintain control of your vehicle:

### Electronic Stability Control

The system enhances your vehicle's ability to prevent skids or lateral slides by applying brakes to one or more of the wheels individually and, if necessary, reducing engine power.

### Roll Stability Control

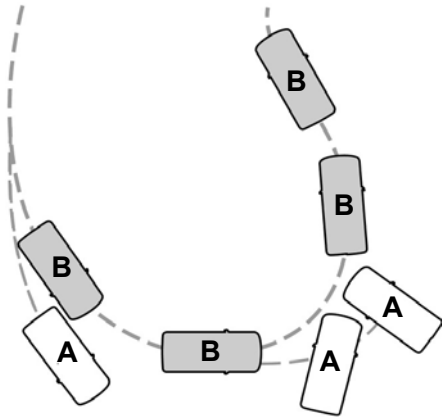
The system enhances your vehicle's ability to prevent rollovers by detecting your vehicle's roll motion and the rate at which it changes by applying the brakes to one or more wheels individually.



# Stability Control

## Traction Control

The system enhances your vehicle's ability to maintain traction of the wheels by detecting and controlling wheel spin. See **Using Traction Control** (page 156).



E72903

- A Vehicle without stability control skidding off its intended route.
- B Vehicle with stability control maintaining control on a slippery surface.

## USING STABILITY CONTROL

The system automatically turns on each time you switch the ignition on.

You cannot switch the stability control and roll stability control systems off, but when you shift into reverse (R), the systems deactivate.

You can switch the traction control system off or on. See **Using Traction Control** (page 156).

# Parking Aids

## PRINCIPLE OF OPERATION



**WARNING:** To help avoid personal injury, always use caution when in reverse (R) and when using the sensing system.



**WARNING:** The system may not detect objects with surfaces that absorb reflection. Always drive with due care and attention. Failure to take care may result in a crash.



**WARNING:** Traffic control systems, inclement weather, air brakes, external motors and fans may affect the correct operation of the sensing system. This may cause reduced performance or false alerts.



**WARNING:** The system may not detect small or moving objects, particularly those close to the ground.

**Note:** If your vehicle has MyKey™, the sensing system cannot be switched off when a MyKey™ is present.

**Note:** Keep the sensors on the bumper or fascia free from snow, ice and large accumulations of dirt. If the sensors are covered, the system's accuracy can be affected. Do not clean the sensors with sharp objects.

**Note:** If your vehicle sustains damage to the bumper or fascia, leaving it misaligned or bent, the sensing zone may be altered causing inaccurate measurement of obstacles or false alerts.

**Note:** Certain add-on devices installed around the bumper or fascia may create false alerts. For example, large trailer hitches, bike or surfboard racks, license plate brackets, bumper covers or any other device that may block the normal detection zone of the system. Remove the add-on device to prevent false alerts.

**Note:** When you connect a trailer to your vehicle, the rear parking aid may detect the trailer and therefore provide an alert. Disable the rear parking aid when you connect a trailer to prevent the alert.

The sensing system warns the driver of obstacles within a certain range of your vehicle. The system turns on automatically whenever you switch the ignition on.

You can switch the system off through the touchscreen, information display or from the pop-up message that appears once you shift the transmission into reverse (R). If your vehicle has a parking aid button, you can switch the system off by pressing the button.

If a fault is present in the system, a warning message appears in the information display. See **Information Messages** (page 87).

## REAR PARKING AID (IF EQUIPPED)



**WARNING:** The system may not detect objects with surfaces that absorb reflection. Always drive with due care and attention. Failure to take care may result in a crash.



**WARNING:** The system may not detect small or moving objects, particularly those close to the ground.

# Parking Aids



**WARNING:** To help avoid personal injury, always use caution when in reverse (R) and when using the sensing system.



**WARNING:** The parking aid system can only assist you to detect objects when your vehicle is moving at parking speeds. To help avoid personal injury you must take care when using the parking aid system.

**Note:** Keep the sensors free from snow, ice and large accumulations of dirt.

**Note:** Do not cover up the sensors.

**Note:** Do not clean the sensors with sharp objects.

**Note:** If your vehicle sustains damage leaving the sensors misaligned, this may cause inaccurate measurements or false alerts.

**Note:** Some accessories, for example large trailer hitches or bike or surfboard racks can cause reduced performance or false alerts.

The sensors are on the rear bumper.

The sensors are active when the transmission is in reverse (R) and the vehicle speed is less than 3 mph (5 km/h). When the parking aid system sounds a tone, the audio system may reduce the set volume.

A warning tone sounds when your vehicle approaches an object. As your vehicle moves closer to an object, the rate of the tone increases. The warning tone continuously sounds when an object is 12 in (30 cm) or less from the center of the rear bumper.

**Note:** There is a decreased coverage area at the outer corners.



The sensor coverage area is up to 70 in (180 cm) from the rear bumper.

If the system detects a fault, a warning message appears in the information display.

The system detects large objects when you shift into reverse (R) and any of the following occur:

- Your vehicle is moving backward at low speed.
- Your vehicle is stationary but an object is approaching the rear of your vehicle at low speed.
- Your vehicle is moving backward at low speed and an object is moving toward your vehicle, for example another vehicle at low speed.

If your vehicle remains stationary for two seconds the audible warning turns off. If your vehicle moves backward the tone sounds again.

**Note:** If the detected object is 12 in (30 cm) or less from the rear bumper, the audible warning does not turn off.

# Parking Aids

## Object Distance Indicator (If Equipped)



The system provides object distance indication through the information display.

- As the distance to the object decreases, the indicator blocks illuminate and move toward the vehicle icon.
- If the system does not detect an object, the distance indicator blocks are gray.

When you shift into reverse (R), the system provides audible warnings and visual indication when your vehicle is moving and the detected object is moving toward your vehicle. When you stop your vehicle, the audible warnings stop after two seconds. Visual indication remains on when the transmission is in reverse (R).

## REAR VIEW CAMERA

**WARNING:** The rear view camera system is a reverse aid supplement device that still requires the driver to use it in conjunction with the interior and exterior mirrors for maximum coverage.

**WARNING:** Objects that are close to either corner of the bumper or under the bumper, might not be seen on the screen due to the limited coverage of the camera system.

**WARNING:** Reverse your vehicle slowly. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Use caution when the rear cargo door is ajar. If the rear cargo door is ajar, the camera will be out of position and the video image could be incorrect. All guide lines disappear when the rear cargo door is ajar. Failure to follow this instruction could result in personal injury.

**WARNING:** Use caution when turning camera features on or off when the transmission is not in park (P). Make sure your vehicle is not moving.

The rear view camera provides a video image of the area behind your vehicle.

During operation, lines appear in the display representing the proximity to objects behind your vehicle.

# Parking Aids



E253742

The camera is on the luggage compartment door.

## Using the Rear View Camera System

The rear view camera system displays what is behind your vehicle when you place the transmission in reverse (R).

**Note:** *The reverse sensing system is not effective at speeds above 3 mph (5 km/h) and may not detect certain angular or moving objects.*

The system uses three types of guides to help you see what is behind your vehicle:

- Active guide lines: If your vehicle comes with these, they show the intended path of your vehicle when reversing.
- Fixed guide lines: Show the actual path your vehicle is moving in when reversing in a straight line. This can be helpful when backing into a parking space or aligning your vehicle with another object behind you.
- Centerline: Helps align the center of your vehicle with an object, for example, a trailer.

**Note:** *If the transmission is in reverse (R) and the luggage compartment door or liftgate is open, no rear view camera features display.*

**Note:** *When towing, the camera only sees what you are towing. This might not provide adequate coverage as it usually provides in normal operation, and some objects might not be visible. In some vehicles, the guide lines could disappear when you connect the trailer tow connector.*

The rear view camera may not operate correctly under the following conditions:

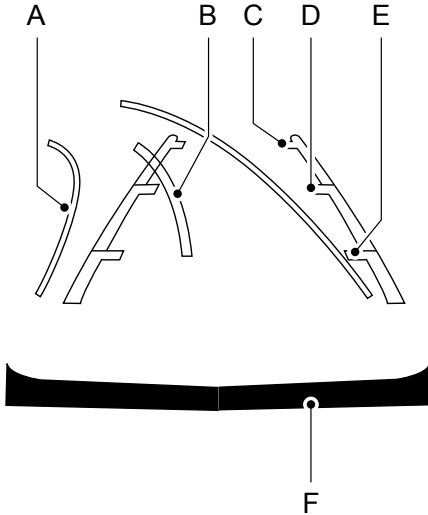
- Nighttime or dark areas if one or both reverse lamps are not operating.
- Mud, water or debris obstructs the camera's view. Clean the lens with a soft, lint-free cloth and non-abrasive cleaner. You can also use the rear washer to clean the camera. See **Rear Window Wiper and Washers** (page 67).
- The rear of your vehicle is hit or damaged, causing the camera to become misaligned.

## Camera System Settings

Access the rear view camera settings through the display screen. See **General Information** (page 84).

# Parking Aids

## Camera Guide Lines



E142436

- A Active guide lines.
- B Centerline.
- C Fixed guideline: Green zone.
- D Fixed guideline: Yellow zone.
- E Fixed guideline: Red zone.
- F Rear bumper.

Active guide lines are only shown with fixed guide lines. To use active guide lines, turn the steering wheel to point the guide lines toward an intended path. If you change the steering wheel position when reversing, your vehicle could deviate from the original intended path.

The fixed and active guide lines fade in and out depending on the steering wheel position. The active guide lines do not display when the steering wheel position is straight.

Use caution when reversing. Objects in the red zone are closest to your vehicle and objects in the green zone are farther away. Objects are getting closer to your vehicle as they move from the green zone to the yellow or red zones. Use the side view mirrors and rear view mirror to get better coverage on both sides and rear of the vehicle.

**Note:** Guide lines are not available on some vehicles.

**Note:** Active guide lines are only available when the transmission is in reverse (R).

## Obstacle Distance Indicator (If Equipped)



The system provides an image of your vehicle and the sensor zones. The zones highlight green, yellow and red when the parking aid sensors detect an object in the coverage area.

# Parking Aids

## Rear Camera On Demand (If Equipped)



Press the camera button on the overhead console to bring up the rear camera view in the display screen. The guide lines appear as white and you are able to use the manual zoom feature by pressing the zoom button.

## Manual Zoom



**WARNING:** When manual zoom is on, the full area behind your vehicle may not show. Be aware of your surroundings when using the manual zoom feature.

**Note:** *Manual zoom is only available when the transmission is in reverse (R).*

**Note:** *When you enable manual zoom, only the centerline is shown.*

Selectable settings for this feature are zoom in, +, and zoom out, -. Press the symbol in the camera screen to change the view. The default setting is zoom off.

Manual zoom allows you to get a closer view of an object behind your vehicle. The zoomed image keeps the bumper in the image to provide a reference. The zoom is only active when the transmission is in reverse (R).

## Rear Camera Delay

Selectable settings for this feature are on and off.

The default setting for the rear camera delay is off.

When shifting the transmission out of reverse (R) and into any gear other than park (P), the camera image remains in the display until:

- Your vehicle speed reaches approximately 5 mph (8 km/h).
- You shift your vehicle into park (P).

# Cruise Control

## WHAT IS CRUISE CONTROL

Cruise control lets you maintain a set speed without keeping your foot on the accelerator pedal.

### Requirements

Use cruise control when the vehicle speed is greater than 20 mph (30 km/h).

## SWITCHING CRUISE CONTROL ON AND OFF



**WARNING:** Do not use cruise control on winding roads, in heavy traffic or when the road surface is slippery. This could result in loss of vehicle control, serious injury or death.

The cruise controls are on the steering wheel.

### Switching Cruise Control On



Press the button to put the system in standby mode.

### Switching Cruise Control Off



Press the button when in standby mode or switch the ignition off.

**Note:** *When you switch cruise control off the set speed clears.*

## SETTING THE CRUISE CONTROL SPEED



**WARNING:** When you are going downhill, your vehicle speed could increase above the set speed. The system does not apply the brakes.

Drive to the speed you prefer.

**SET+**

Press the toggle button upward or downward to set the current speed.

**SET-**

Take your foot off the accelerator pedal.

**Note:** *The indicator changes color in the information display.*

## Changing the Set Speed

**SET+**

Press and release the toggle button upward to increase the set speed in small increments.

Press and hold the toggle button upward to accelerate. Release the button when you have reached your preferred speed.

**SET-**

Press and release the toggle button downward to decrease the set speed in small increments.

Press and hold the toggle button downward to decelerate. Release the button when you have reached your preferred speed.

**Note:** *If you accelerate by pressing the accelerator pedal, the set speed does not change. When you release the accelerator pedal, your vehicle returns to the speed that you previously set.*



# Cruise Control

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## CANCELING THE SET SPEED



Press the button, or tap the brake pedal to cancel the set speed.

**Note:** *The system remembers the set speed.*

**Note:** *The system cancels if the vehicle speed drops below 10 mph (16 km/h) under the set speed when driving uphill.*

## RESUMING THE SET SPEED



Press the button.

## CRUISE CONTROL INDICATORS



Illuminates when you switch the system on.

# Driving Aids

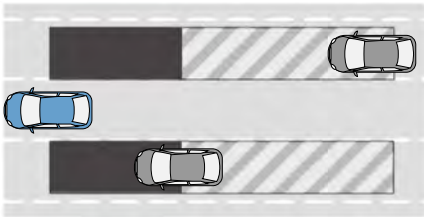
## BLIND SPOT INFORMATION SYSTEM (IF EQUIPPED)



**WARNING:** Do not use the blind spot information system as a replacement for using the interior and exterior mirrors or looking over your shoulder before changing lanes. The blind spot information system is not a replacement for careful driving.



**WARNING:** The system may not operate properly during severe weather conditions, for example snow, ice, heavy rain and spray. Always drive with due care and attention. Failure to take care may result in a crash.



The design of the system is to detect vehicles that could have entered the blind spot zone. The detection area is on both sides of your vehicle, extending rearward from the exterior mirrors to approximately 13 ft (4 m) beyond the rear bumper. The detection area extends to approximately 59 ft (18 m) beyond the rear bumper when the vehicle speed is greater than 30 mph (48 km/h) to alert you of faster approaching vehicles.

**Note:** The system does not prevent contact with other vehicles. It does not detect parked vehicles, pedestrians, animals or other infrastructures.

## Using the Blind Spot Information System

### Vehicles with Automatic Transmission

The system turns on when all of the following occur:

- You start your vehicle.
- You shift into drive (D).
- The vehicle speed is greater than 6 mph (10 km/h).

**Note:** The system does not operate in park (P) or reverse (R).

### System Lights and Messages

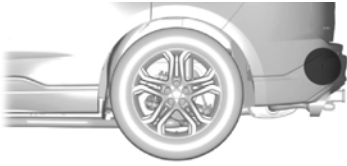


When the system detects a vehicle, an alert indicator illuminates in the exterior mirror on the side the approaching vehicle is coming from. If you turn the direction indicator on for that side of your vehicle, the alert indicator flashes.

**Note:** The system may not alert you if a vehicle quickly passes through the detection zone.

# Driving Aids

## Blocked Sensors



The sensors are behind the rear bumper on both sides of your vehicle.

**Note:** Keep the sensors free from snow, ice and large accumulations of dirt.

**Note:** Do not cover the sensors with bumper stickers, repair compound or other objects.

**Note:** Blocked sensors could affect system performance.

If the sensors become blocked, a message could appear in the information display. See **Information Messages** (page 87). The alert indicators remain illuminated but the system does not alert you.

## System Errors

If the system detects a fault, a warning lamp illuminates and a message displays. See **Information Messages** (page 87).

## Switching the System On and Off

To switch the system on or off, adjust the setting. Depending on your vehicle options, the setting could be in the following:

- Information display. See **General Information** (page 84).
- Touchscreen.

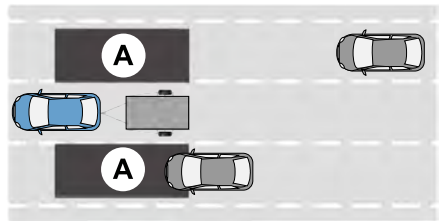
When you switch the system off, a warning lamp illuminates and the alert indicators flash twice.

**Note:** The system remembers the last setting when you start your vehicle.

**Note:** The system may not correctly operate when towing a trailer. For vehicles with an approved trailer tow module and tow bar, the system turns off when you attach a trailer. For vehicles with an aftermarket trailer tow module or tow bar, we recommend that you switch the system off when you attach a trailer.

To permanently switch the system off, contact an authorized dealer.

## Blind Spot Information System with Trailer Tow (If Equipped)



E293525

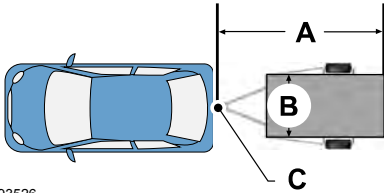
The design of the system is to aid you in detecting vehicles that could have entered the detection area zone (A). The detection area is on both sides of your vehicle and trailer, extending rearward from the exterior mirrors to the end of your trailer. When you attach and have setup a trailer, the blind spot information system with trailer tow becomes active when driving forward above 6 mph (10 km/h).

You can switch the system off in the information display. See **General Information** (page 84). If you switch the blind spot information system off, blind spot information system with trailer tow turns off.

# Driving Aids

## Setting up a Trailer

You can setup a trailer through the information display. See **General Information** (page 84).



E293526

- A Trailer length.
- B Trailer width.
- C Trailer hitch ball.

**Note:** Measure the width of the trailer at the front of the trailer, not the widest point. The maximum width that the system can support is 8.2 ft (2.5 m)(B).

**Note:** The trailer length is the distance between the trailer hitch ball and the rear of the trailer. The maximum length that the system can support is 33 ft (10 m)(A).

When setting up a trailer, a sequence of screens appear asking for trailer information:

- Select trailer screen: None, Trailer A, Trailer B or Trailer C.

**Note:** You can select only one trailer on small information displays.

Select one of the trailers and press OK. The menu goes to the next screen.

- Width less than 8.2 ft (2.5 m) and length less than 33 ft (10 m)?

**Note:** You do not need to enter an exact trailer width measurement. You only need to confirm that the width of the trailer is 8.2 ft (2.5 m) or less.

If no, the system turns off.

If yes, the menu goes to the next screen.

- Enter length of trailer:

Toggling up or down using the menu buttons increases or decreases the measurement by 3 ft (1 m). Select a length that is equal to or within 3 ft (1 m) of the actual measured length. For example, if the actual measured length is 25 ft (7.6 m), toggle the length in the menu to 8 m or 27 ft. When you enter the length of the trailer, this saves the system setup.

**Note:** When you connect a trailer, but do not setup a trailer in the blind spot information system, the system turns off and a warning appears in the information display.

**Note:** If the trailer is a bike rack or cargo rack with electrical lighting, enter a length of 3 ft (1 m). Cross Traffic Alert remains on for trailers with a length of 3 ft (1 m) or less.

**Note:** The system requires proper measurement and measurement entry to function as designed.

## System Operation

If you select a trailer in the information display prior to connecting a trailer, the system loads that configuration and the information display shows a message when you connect the trailer. A second message appears stating cross traffic alert is off, unless a trailer is set up with a length of 3 ft (1 m). The blind spot information system with trailer tow still functions normally when driving forward.

If you connect a trailer, a message appears indicating that you attached a trailer. If you have not selected a trailer previously, another message appears requesting you to select one of the trailers in the list or add a new trailer. The blind spot information system with trailer tow does not function

# Driving Aids

without a trailer selected. If you do not select a trailer, a message appears in the information display stating it has deactivated the system. This message might not appear until your vehicle speed reaches 22 mph (35 km/h).

The blind spot information system with trailer tow activates when driving forward for that particular trailer set up. If you cycle the ignition, the blind spot information system with trailer tow continues to function using the last trailer you selected.

## Trailer Considerations

The system works with a trailer with a front width of 8.2 ft (2.5 m) or less, and a total length from the trailer hitch ball to the rear of the trailer of 33 ft (10 m) or less.

Some trailers could cause a slight change in system performance:

- Wide box trailers, especially those wider than the towing vehicle, could cause false alerts to occur when driving next to infrastructure or near parked cars. A false alert could also occur while making a 90-degree turn or driving through a roundabout.
- Wide trailers that have a total length greater than 20 ft (6 m) could cause delayed alerts when a vehicle is passing at high speeds.
- Box trailers that have a width greater than 8.2 ft (2.5 m) could cause early alerts when you pass a vehicle.
- Clam shell or V-Nose box trailers with a width greater than 8.2 ft (2.5 m) could cause delayed alerts when a vehicle traveling the same speed as your vehicle merges lanes.

## System Errors

If the system detects a fault, a warning lamp illuminates and a message displays. See **Information Messages** (page 87).

## Switching the System On and Off

You can switch the blind spot information system with trailer tow off by not selecting a trailer the information display. See **General Information** (page 84). In this case, the system turns off as long as a trailer is attached to your vehicle. As soon as you disconnect the trailer, the blind spot information system becomes active.

When you switch the system off, a warning lamp illuminates and the alert indicators flash twice.

**Note:** *The system remembers the last trailer setting when you start your vehicle.*

You cannot switch off the blind spot information system with trailer tow when using MyKey, but you can still change the trailer settings.

To permanently switch the system off, contact an authorized dealer.

## CROSS TRAFFIC ALERT (IF EQUIPPED)



**WARNING:** Do not use the cross traffic alert system as a replacement for using the interior and exterior mirrors or looking over your shoulder before reversing out of a parking space. The cross traffic alert system is not a replacement for careful driving.



**WARNING:** The system may not operate properly during severe weather conditions, for example snow, ice, heavy rain and spray. Always drive with due care and attention. Failure to take care may result in a crash.

The system alerts you of vehicles approaching from the sides behind your vehicle when you shift into reverse (R).

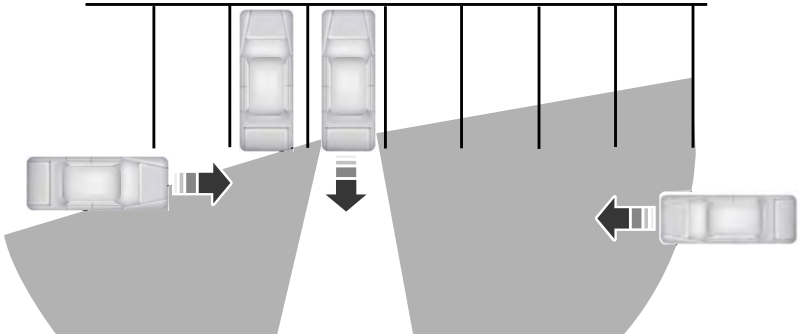
# Driving Aids

## Using Cross Traffic Alert

The system detects vehicles that approach at a speed between 4 mph (6 km/h) and 37 mph (60 km/h). Coverage decreases when the sensors are partially, mostly or fully obstructed. Slowly reversing helps

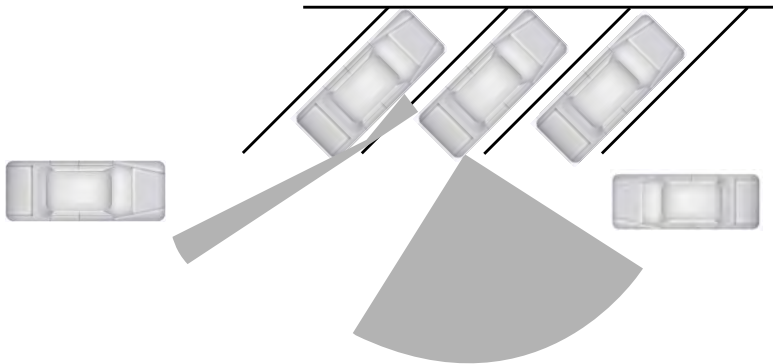
increase the coverage area and effectiveness.

The system turns on when you start the engine and you shift into reverse (R). The system turns off when you shift out of reverse (R).



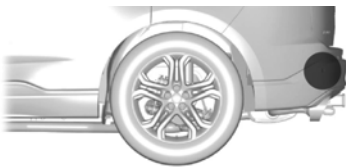
The sensor on the left-hand side is only partially obstructed and zone coverage on the right-hand side is maximized.

# Driving Aids



Zone coverage also decreases when parking at narrow angles. The sensor on the left-hand side is mostly obstructed and zone coverage on that side is severely reduced.

## Cross Traffic Alert System Sensors



The sensors are behind the rear bumper on both sides of your vehicle.

**Note:** Keep the sensors free from snow, ice and large accumulations of dirt.

**Note:** Do not cover the sensors with bumper stickers, repair compound or other objects.

**Note:** Blocked sensors could affect system performance.

If the sensors are blocked, a message may appear in the information display when you shift into reverse (R).

## Cross Traffic Alert System Limitations

The system may not correctly operate when any of the following occur:

- The sensors are blocked.
- Adjacently parked vehicles or objects are obstructing the sensors.
- Vehicles approach at speeds less than 4 mph (6 km/h) or greater than 37 mph (60 km/h).
- The vehicle speed is greater than 7 mph (12 km/h).
- You reverse out of an angled parking space.

# Driving Aids

## Cross Traffic Alert Behavior When Trailer is Attached

**Note:** *The system may not correctly operate when towing a trailer. For vehicles with an approved trailer tow module and tow bar, the system turns off when you attach a trailer. For vehicles with an aftermarket trailer tow module or tow bar, we recommend that you switch the system off when you attach a trailer.*

Cross traffic alert remains on when you attach a trailer in vehicles that come with blind spot information system with trailer tow under the following conditions:

- You connect a trailer.
- The trailer is a bike rack or cargo rack with a maximum length of 3 ft (1 m).
- You set the trailer length to 3 ft (1 m) in the information display.

See **Blind Spot Information System** (page 167).

## Switching the System On and Off

To switch the system on or off, adjust the setting. Depending on your vehicle options, the setting could be in the following:

- Information display. See **General Information** (page 84).
- Touchscreen.

**Note:** *The system turns on every time you switch the ignition on. To permanently switch the system off, contact an authorized dealer.*

## Cross Traffic Alert Indicator



When the system detects an approaching vehicle, a tone sounds, a warning lamp illuminates in the relevant exterior mirror and arrows appear in the information display to show which side the approaching vehicle is coming from.

**Note:** *If arrows do not display, a message appears in the information display.*

If the system malfunctions, a warning lamp illuminates in the instrument cluster and a message appears in the information display. Have your vehicle checked as soon as possible.

**Note:** *In exceptional conditions, the system could alert you, even when there is nothing in the detection zone, for example a vehicle passing further away from your vehicle.*

## Cross Traffic Alert Information Messages

Message	Action
Cross Traffic Alert	Displays instead of indication arrows when the system detects a vehicle. Check for approaching traffic.
Cross Traffic Not Available Sensor Blocked See Manual	Indicates blocked cross traffic alert system sensors. Clean the sensors. If the message continues to appear, have your vehicle checked as soon as possible.
Cross Traffic System Fault	The system has malfunctioned. Have your vehicle checked as soon as possible.
Cross Traffic Alert Deactivated Trailer Attached	Displays if you attach a trailer to your vehicle.



# Driving Aids

## STEERING

### Electric Power Steering



**WARNING:** The electric power steering system has diagnostic checks that continuously monitor the system. If a fault is detected, a message displays in the information display. Stop your vehicle as soon as it is safe to do so. Switch the ignition off. After at least 10 seconds, switch the ignition on and watch the information display for a steering system warning message. If a steering system warning message returns, have the system checked as soon as possible.



**WARNING:** If the system detects an error, you may not feel a difference in the steering, however a serious condition may exist. Have your vehicle checked as soon as possible. Failure to do so may result in loss of steering control.

Your vehicle has an electric power steering system, there is no fluid reservoir, no maintenance is required.

If your vehicle loses electrical power while you are driving, electric power steering assistance is lost. The steering system still operates and you can steer your vehicle manually. Manually steering your vehicle requires more effort.

Extreme continuous steering may increase the effort required for you to steer your vehicle, this increased effort prevents overheating and permanent damage to the steering system. You do not lose the ability to steer your vehicle manually. Typical steering and driving maneuvers allow the system to cool and return to normal operation.

### Steering Tips

If the steering wanders or pulls, check for:

- Correct tire pressures.
- Uneven tire wear.
- Loose or worn suspension components.
- Loose or worn steering components.
- Improper vehicle alignment.

**Note:** *A high crown in the road or high crosswinds may also make the steering seem to wander or pull.*

### Adaptive Learning (If Equipped)

The electronic power steering system adaptive learning helps correct road irregularities and improves overall handling and steering feel. It communicates with the brake system to help operate advanced stability control and accident avoidance systems. Additionally, whenever the battery is disconnected or a new battery installed, you must drive your vehicle a short distance before the system relearns the strategy and reactivates all systems.

### PRE-COLLISION ASSIST (IF EQUIPPED)



**WARNING:** You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

# Driving Aids

**WARNING:** The system does not detect vehicles that are driving in a different direction, cyclists or animals. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

**WARNING:** The system does not operate during hard acceleration or steering. Failure to take care may lead to a crash or personal injury.

**WARNING:** The system may fail or operate with reduced function during cold and severe weather conditions. Snow, ice, rain, spray and fog can adversely affect the system. Keep the front camera and radar free of snow and ice. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

**WARNING:** In situations where the vehicle camera has limited detection capability, this may reduce system performance. These situations include but are not limited to direct or low sunlight, vehicles at night without tail lights, unconventional vehicle types, pedestrians with complex backgrounds, running pedestrians, partly obscured pedestrians, or pedestrians that the system cannot distinguish from a group. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.

**WARNING:** The system cannot help prevent all crashes. Do not rely on this system to replace driver judgment and the need to maintain a safe distance and speed.

## Using the Pre-Collision Assist System

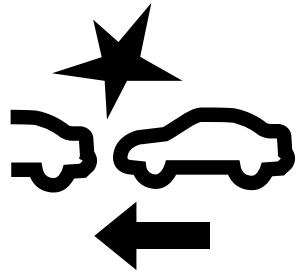
The system is active at speeds above approximately 3 mph (5 km/h) and pedestrian detection is active at speeds up to 50 mph (80 km/h).



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If your vehicle is rapidly approaching another stationary vehicle, a vehicle traveling in the same direction as yours, or a pedestrian within your driving path, the system is designed to provide three levels of functionality:

1. Alert
2. Brake Support
3. Active Braking



**Alert:** When active, a flashing visual warning appears and an audible warning tone sounds.

**Brake Support:** The system is designed to help reduce the impact speed by preparing the brakes for rapid braking. Brake support does not automatically apply the brakes. If you press the brake pedal, the system could apply additional braking up to maximum braking force, even if you lightly press the brake pedal.

# Driving Aids

**Active Braking:** Active braking may activate if the system determines that a collision is imminent. The system may help the driver reduce impact damage or avoid the crash completely.

**Note:** *Brake Support and Active Braking are active at speeds up to 75 mph (120 km/h).*

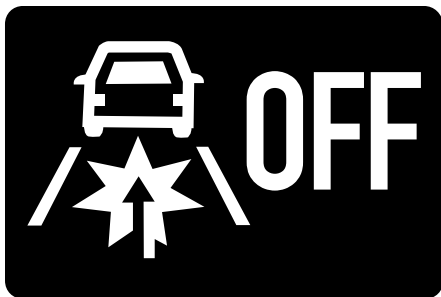
**Note:** *If you perceive Pre-Collision Assist alerts as being too frequent or disturbing, then you can reduce the alert sensitivity, though the manufacturer recommends using the highest sensitivity setting where possible. Setting lower sensitivity would lead to fewer and later system warnings.*

## Adjusting the Pre-Collision Assist Settings

You can adjust the following settings by using the information display controls. See **General Information** (page 84).

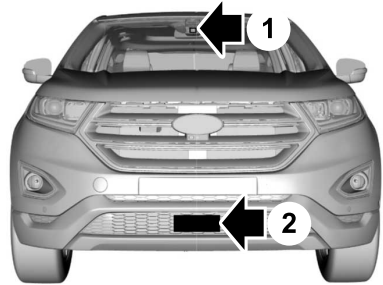
- You can change Alert sensitivity to one of three possible settings.
- If required, you can switch Active Braking on or off.

**Note:** *Active Braking automatically turns on every time you switch the ignition on.*



You can switch the entire system off at any time by pressing the button below the display screen.

## Blocked Sensors



- 1 Camera.
- 2 Radar sensor (not included).

If a message regarding a blocked camera appears in the information display, the camera images are obstructed. With a blocked camera, the Pre-Collision Assist system may not function, or performance may reduce. The following table lists possible causes and actions for when this message displays.

# Driving Aids

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## Camera Troubleshooting

Cause	Action
The windshield in front of the camera is dirty or obstructed in some way.	Clean the outside of the windshield in front of the camera.
The windshield in front of the camera is clean but the message remains in the display screen.	Wait a short time. It may take several minutes for the camera to detect that there is no obstruction.

**Note:** *Proper system operation requires a clear view of the road by the camera. Have any windshield damage in the area of the camera's field of view repaired.*

# Drive Mode Control

## WHAT IS DRIVE MODE CONTROL

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:

- Electric power-assisted steering system adjusts steering effort and feel based on the mode you select. See **Steering** (page 174).
- Electronic stability control and traction control maintain your vehicle control in adverse conditions or high performance driving. See **Stability Control** (page 157).
- Electronic throttle control enhances the powertrain response to your driving inputs.
- Transmission controls become optimized with shift schedules tuned to each mode.
- Four-wheel drive settings are optimized and tuned to each mode.
- Electric vehicle mode selections may be limited. See **Hybrid Vehicle Operation** (page 123).

The system tailors your vehicle configuration for each mode you select.

**Note:** *Not all settings may be available.*

**Note:** *The system has diagnostic checks that continuously monitor the system for proper operation. If a mode is unavailable due to a system fault or change in gear shifter position, the mode defaults to Normal.*

## SELECTING A DRIVE MODE

### Police Pursuit Mode



This mode does not use a switch. This system is a temporary driving enhancement that senses the driver is demanding high performance from the vehicle. On all Police Interceptor applications, the transmission holds lower gears and the engine holds higher engine speeds longer than normal driving. The mode terminates when the vehicle senses the driver is no longer in high performance demand. The vehicle then returns to normal operation.

**Note:** *Drive mode changes may not be available when the ignition is off or when the engine is not running.*



Press the drive mode button underneath the information display to select or change a drive mode.

## DRIVE MODES

### Deep Snow/Sand



For snow or soft dry sand. When stuck in deep snow, use this mode to help get unstuck.

**Note:** *Using deep snow/sand mode on dry, hard surfaces could produce some vibration, driveline bind up, and potential excessive tire wear. This mode is for slippery and loose surfaces.*

# Drive Mode Control

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## Normal



For everyday driving. This mode is a perfect balance of excitement, comfort and convenience. This is the default mode after each ignition cycle.

# Load Carrying

## LOAD LIMIT

### Vehicle Loading - with and without a Trailer

This section guides you in the proper loading of your vehicle, trailer, or both. Keep your loaded vehicle weight within its design rating capability, with or without a trailer. Properly loading your vehicle provides maximum return of vehicle design performance. Before you load your vehicle, become familiar with the following terms for determining your vehicle's weight rating, with or without a trailer, from the vehicle's Tire and Loading Information label or Safety Compliance Certification label.

### Tire and Loading Label Information Example:



#### TIRE AND LOADING INFORMATION

SEATING CAPACITY TOTAL: 5 FRONT: 2 REAR: 3

The combined weight of occupants and cargo should never exceed: 385 kg or 850 lbs.

TIRE	SIZE	COLD TIRE PRESSURE
FRONT	235/45R18 94V	235 KPA, 34 PSI
REAR	235/45R18 94V	235 KPA, 34 PSI
SPARE	NONE	NONE

SEE OWNER'S  
MANUAL FOR  
ADDITIONAL  
INFORMATION



#### TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

SEATING CAPACITY / NOMBRE DE PLACES TOTAL 5 FRONT AVANT 2 REAR ARRIERE 3

The combined weight of occupants and cargo should never exceed 396 kg or 875 lbs.  
Le poids total des occupants et du chargement ne doit jamais dépasser 396 kg ou 875 lbs.

TIRE / PNEU	SIZE / DIMENSIONS	COLD TIRE PRESSURE / PRESURE DES PNEUS A FROID
FRONT AVANT	235/40R19 96V	255 KPA, 37 PSI
REAR ARRIERE	235/40R19 96V	255 KPA, 37 PSI
SPARE DE SECOURS	T125/80R16 97M	415 KPA, 60 PSI

SEE OWNER'S  
MANUAL FOR  
ADDITIONAL  
INFORMATION  
VOIR LE MANUEL  
DE L'USAGER  
POUR PLUS DE  
RENSEIGNEMENTS

## Payload

Payload is the combined weight of cargo and passengers that your vehicle is carrying. The maximum payload for your vehicle appears on the Tire and Loading label. The label is either on the B-pillar or the edge of the driver door. Vehicles exported outside the US and Canada may not have a tire and loading label. Look for "The combined weight of occupants and cargo should never exceed XXX kg OR XXX lb" for maximum payload. The payload listed on the Tire and Loading Information label

# Load Carrying

is the maximum payload for your vehicle as built by the assembly plant. If you install any additional equipment on your vehicle, you must determine the new payload. Subtract the weight of the equipment from the payload listed on the Tire and Loading label. When towing, trailer tongue weight or king pin weight is also part of payload.



**WARNING:** The appropriate loading capacity of your vehicle can be limited either by volume capacity (how much space is available) or by payload capacity (how much weight the vehicle should carry). Once you have reached the maximum payload of your vehicle, do not add more cargo, even if there is space available. Overloading or improperly loading your vehicle can contribute to loss of vehicle control and vehicle rollover.

## GAWR (Gross Axle Weight Rating)

GAWR is the maximum allowable weight that a single axle (front or rear) can carry. These numbers are on the Safety Compliance Certification label. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

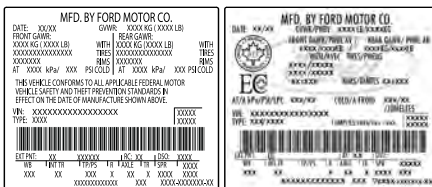
The total load on each axle must never exceed its Gross Axle Weight Rating.

## GVWR (Gross Vehicle Weight Rating)

GVWR is the maximum allowable weight of the fully loaded vehicle. This includes all options, equipment, passengers and cargo. It appears on the Safety Compliance Certification label. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

The gross vehicle weight must never exceed the Gross Vehicle Weight Rating.

## Safety Compliance Certification Label Example:





# Load Carrying



**WARNING:** Exceeding the Safety Compliance Certification label vehicle weight limits can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

## Maximum Loaded Trailer Weight

Maximum loaded trailer weight is the highest possible weight of a fully loaded trailer the vehicle can tow. Consult an authorized dealer (or the RV and Trailer Towing Guide available at an authorized dealer) for more detailed information.

## GCWR (Gross Combined Weight Rating)

GCWR is the maximum allowable weight of the vehicle and the loaded trailer, including all cargo and passengers, that the vehicle can handle without risking damage. (Important: The towing vehicle's braking system is rated for operation at Gross Vehicle Weight Rating, not at Gross Combined Weight Rating.) Separate functional brakes should

be used for safe control of towed vehicles and for trailers where the Gross Combined Weight of the towing vehicle plus the trailer exceed the Gross Vehicle Weight Rating of the towing vehicle.

The gross combined weight must never exceed the Gross Combined Weight Rating.

**Note:** For trailer towing information refer to the *RV and Trailer Towing Guide* available at an authorized dealer.



**WARNING:** Do not exceed the GVWR or the GAWR specified on the certification label.



**WARNING:** Do not use replacement tires with lower load carrying capacities than the original tires because they may lower your vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the original tires do not increase the GVWR and GAWR limitations.



**WARNING:** Exceeding any vehicle weight rating can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

# Load Carrying

## Steps for determining the correct load limit:

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lb.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1,400 lb. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lb.  $(1400 - 750 (5 \times 150) = 650 \text{ lb.})$
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

## Helpful examples for calculating the available amount of cargo and luggage load capacity

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You decide to go golfing. Is there enough load capacity to carry you, four of your friends and all the golf bags? You and four friends average 220 pounds (99 kilograms) each and the golf bags weigh approximately 30 pounds (13.5 kilograms) each. The calculation would be:  $1400 - (5 \times 220) - (5 \times 30) = 1400 - 1100 - 150 = 150$  pounds. Yes, you have enough load capacity in your vehicle to transport four friends and your golf bags. In metric units, the calculation would be:  $635 \text{ kilograms} - (5 \times 99 \text{ kilograms}) - (5 \times 13.5 \text{ kilograms}) = 635 - 495 - 67.5 = 72.5$  kilograms.

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You and one of your friends decide to pick up cement from the local home improvement store to finish that patio you have been planning for the past two years. Measuring the inside of the vehicle with the rear seat folded down, you have room for twelve 100-pound (45-kilogram) bags of cement. Do you have enough load capacity to transport the cement to your home? If you and your friend each weigh 220 pounds (99 kilograms), the calculation would be:  $1400 - (2 \times 220) - (12 \times 100) = 1400 - 440$

## Load Carrying

- 1200 = - 240 pounds. No, you do not have enough cargo capacity to carry that much weight. In metric units, the calculation would be: 635 kilograms - (2 x 99 kilograms) - (12 x 45 kilograms) = 635 - 198 - 540 = -103 kilograms. You will need to reduce the load weight by at least 240 pounds (104 kilograms). If you remove three 100-pound (45-kilogram) cement bags, then the load calculation would be: 1400 - (2 x 220) - (9 x 100) = 1400 - 440 - 900 = 60 pounds. Now you have the load capacity to transport the cement and your friend home. In metric units, the calculation would be: 635 kilograms - (2 x 99 kilograms) - (9 x 45 kilograms) = 635 - 198 - 405 = 32 kilograms.

The above calculations also assume that the loads are positioned in your vehicle in a manner that does not overload the front or the rear gross axle weight rating specified for your vehicle on the Safety Compliance Certification label.

### Special Loading Instructions for Owners of Pick-up Trucks and Utility-type Vehicles



**WARNING:** When loading the roof racks, we recommend you evenly distribute the load, as well as maintain a low center of gravity. Loaded vehicles, with higher centers of gravity, may

handle differently than unloaded vehicles. Take extra precautions, such as slower speeds and increased stopping distance, when driving a heavily loaded vehicle.

# Towing

## TOWING A TRAILER



**WARNING:** Towing trailers beyond the maximum recommended gross trailer weight exceeds the limit of your vehicle and could result in engine damage, transmission damage, structural damage, loss of vehicle control, vehicle rollover and personal injury.



**WARNING:** Do not exceed the GVWR or the GAWR specified on the certification label.

**Note:** See *Recommended Towing Weights* (page 186).

Your vehicle may have electrical items, such as fuses or relays, related to towing. See **Fuses** (page 208).

Your vehicle's load capacity designation is by weight, not by volume, so you cannot necessarily use all available space when loading a vehicle or trailer.

Towing a trailer places an extra load on your vehicle's engine, transmission, axle, brakes, tires and suspension. Inspect these components periodically during, and after, any towing operation.

## Load Placement

To help minimize how trailer movement affects your vehicle when driving:

- Load the heaviest items closest to the trailer floor.
- Load the heaviest items centered between the left and right side trailer tires.
- Load the heaviest items above the trailer axles or just slightly forward toward the trailer tongue. Do not allow the final trailer tongue weight to go above or below 10-15% of the loaded trailer weight.
- Select a ball mount with the correct rise or drop and load capacity. When both the loaded vehicle and trailer are connected, the trailer frame should be level, or slightly angled down toward your vehicle, when viewed from the side.

When driving with a trailer or payload, a slight takeoff vibration or shudder may be present due to the increased payload weight. Additional information regarding proper trailer loading and setting your vehicle up for towing is located in another chapter of this manual. See **Load Limit** (page 180).

You can also find information in the **RV & Trailer Towing Guide** available at your authorized dealer, or online.

# Towing

## RV & Trailer Towing Guide Online

Website | <http://www.fleet.ford.com/towing-guides/>

### RECOMMENDED TOWING WEIGHTS

**Note:** Do not tow a trailer during patrol or pursuit situations.

**Note:** Do not exceed the trailer weight for your vehicle configuration listed in the chart below.

**Note:** Be sure to take into consideration trailer frontal area. Do not exceed 40 ft<sup>2</sup> (3.72 m<sup>2</sup>) when towing trailers up to 5,000 lb (2,268 kg).

**Note:** Your vehicle could have reduced performance when operating at high altitudes, and when heavily loaded or towing a trailer. When driving at elevation, in order to match driving performance as perceived at sea level, reduce gross vehicle weight and gross combination weight by 2% per 1,000 ft (300 m) of elevation.

**Note:** Certain states require electric trailer brakes for trailers over a specified weight. Be sure to check state regulations for this specified weight. The maximum trailer weights listed may be limited to this specified weight, as the vehicle's electrical system may not include the wiring connector needed to activate electric trailer brakes.

Your vehicle may tow a trailer provided the maximum trailer weight is less than or equal to the maximum trailer weight listed for your vehicle configuration on the following chart.

## Towing

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<b>Engine</b>	<b>Transmission</b>	<b>Drive</b>	<b>Maximum Trailer Weight</b>
3.0L GTDI	10-Speed Automatic Transmission (10R80)	AWD	5,000 lb (2,268 kg)
3.3L PF/DI			
3.3L PF/DI FHEV			

# Towing

## ESSENTIAL TOWING CHECKS

Follow these guidelines for safe towing:

- Do not tow a trailer until you drive your vehicle at least 1,000 mi (1,600 km).
- Consult your local motor vehicle laws for towing a trailer.
- See the instructions included with towing accessories for the proper installation and adjustment specifications.
- Service your vehicle more frequently if you tow a trailer. See **Scheduled Maintenance** (page 326).
- If you use a rental trailer, follow the instructions the rental agency gives you.

You can find information on load specification terms found on the tire label and Safety Compliance label as well as instructions on calculating your vehicle's load in the Load Carrying chapter. See **Load Limit** (page 180).

Remember to account for the trailer tongue weight as part of your vehicle load when calculating the total vehicle weight.

## Hitches

Do not use a hitch that either clamps onto the bumper or attaches to the axle.

Distribute the trailer load so 10-15% of the total trailer weight is on the tongue.

A weight distributing hitch is not required for your vehicle.

## Safety Chains

**Note:** *Do not attach safety chains to the bumper.*

Always connect the safety chains to the hook retainers of your vehicle hitch.

To connect the trailer's safety chains, cross them under the trailer tongue and allow enough slack for turning tight corners. Do not allow the chains to drag on the ground.

## Trailer Brakes



**WARNING:** Do not connect a trailer's hydraulic brake system directly to your vehicle's brake system. Your vehicle may not have enough braking power and your chances of having a collision greatly increase.

Electric brakes and manual, automatic or surge-type trailer brakes are safe if you install them properly and adjust them to the manufacturer's specifications. The trailer brakes must meet local and federal regulations.

The rating for the tow vehicle's braking system operation is at the gross vehicle weight rating, not the gross combined weight rating.

Safe control of towed vehicles requires separate functioning brake systems for vehicles and trailers weighing more than 1,500 lb (680 kg) when loaded.

## Trailer Lamps



**WARNING:** Never connect any trailer lamp wiring to the vehicle's tail lamp wiring; this may damage the electrical system resulting in fire. Contact your authorized dealer as soon as possible for assistance in proper trailer tow wiring installation. Additional electrical equipment may be required.

Most towed vehicles require trailer lamps. Make sure all running lights, brake lights, direction indicators and hazard flashers are working.

# Towing

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## Before Towing a Trailer

Practice turning, stopping and backing up to get the feel of your vehicle-trailer combination before starting on a trip. When turning, make wider turns so the trailer wheels clear curbs and other obstacles.

## When Towing a Trailer

- Do not drive faster than 70 mph (113 km/h) during the first 500 mi (800 km).
- Do not make full-throttle starts.
- Check your hitch, electrical connections and trailer wheel lug nuts thoroughly after you have traveled 50 mi (80 km).
- When stopped in congested or heavy traffic during hot weather, place the gearshift in park (P) to aid engine and transmission cooling and to help A/C performance.
- Turn off the speed control with heavy loads or in hilly terrain. The speed control may turn off automatically when you are towing on long, steep grades.
- Shift to a lower gear when driving down a long or steep hill. Do not apply the brakes continuously, as they may overheat and become less effective.
- If your transmission is equipped with a Grade Assist or Tow/Haul feature, use this feature when towing. This provides engine braking and helps eliminate excessive transmission shifting for optimum fuel economy and transmission cooling.
- Allow more distance for stopping with a trailer attached. Anticipate stops and brake gradually.
- Avoid parking on a grade. However, if you must park on a grade:
  1. Turn the steering wheel to point your vehicle tires away from traffic flow.

2. Set your vehicle parking brake.
3. Place the automatic transmission in park (P).
4. Place wheel chocks in front and back of the trailer wheels. (Chocks not included with vehicle.)

## Launching or Retrieving a Boat or Personal Watercraft (PWC)

**Note:** Disconnect the wiring to the trailer **before** backing the trailer into the water.

**Note:** Reconnect the wiring to the trailer **after** removing the trailer from the water.

When backing down a ramp during boat launching or retrieval:

- Do not allow the static water level to rise above the bottom edge of the rear bumper.
- Do not allow waves to break higher than 6 in (15 cm) above the bottom edge of the rear bumper.

Exceeding these limits may allow water to enter vehicle components:

- Causing internal damage to the components.
- Affecting driveability, emissions, and reliability.

Replace the rear axle lubricant anytime the rear axle has been submerged in water. Water may have contaminated the rear axle lubricant, which is not normally checked or changed unless a leak is suspected or other axle repair is required.



# Towing

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## TOWING THE VEHICLE ON FOUR WHEELS

### Emergency Towing



**WARNING:** If your vehicle has a steering wheel lock make sure the ignition is in the accessory or on position when being towed.

If your vehicle becomes inoperable without access to wheel dollies or a vehicle transport trailer, it can be flat-towed with all wheels on the ground, regardless of the powertrain and transmission configuration, under the following conditions:

- Your vehicle is facing forward for towing in a forward direction.
- Place the transmission in neutral (N). If you cannot shift the transmission into neutral (N), you may need to override the gear shifter. See **Transmission** (page 142). Failing to do so may result in damage to the transmission.
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

### Recreational Towing

You cannot recreational tow your vehicle with all wheels on the ground because vehicle or transmission damage could occur. You must recreational tow your vehicle with all four wheels off the ground such as when using a car-hauling trailer. Otherwise, you cannot recreational tow your vehicle.

# Driving Hints

## REDUCED ENGINE PERFORMANCE



**WARNING:** If you continue to drive your vehicle when the engine is overheating, the engine could stop without warning. Failure to follow this instruction could result in the loss of control of your vehicle.

If the engine coolant temperature gauge needle moves to the upper limit position, the engine is overheating. See **Gauges** (page 78).

You must only drive your vehicle for a short distance if the engine overheats. The distance you can travel depends on ambient temperature, vehicle load and terrain. The engine continues to operate with limited power for a short period of time.

If the engine temperature continues to rise, the fuel supply to the engine reduces. The air conditioning switches off and the engine cooling fan operates continually.

1. Gradually reduce your speed and stop your vehicle as soon as it is safe to do so.
2. Immediately switch the engine off to prevent severe engine damage.
3. Wait for the engine to cool down.
4. Check the coolant level. See **Engine Coolant Check** (page 226).
5. Have your vehicle checked as soon as possible.

## ECONOMICAL DRIVING

Fuel economy is affected by several things such as how you drive, the conditions you drive under and how you maintain your vehicle.

You may improve your fuel economy by keeping these things in mind:

- Accelerate and slow down in a smooth, moderate fashion.
- Drive at steady speeds.
- Anticipate stops; slowing down may eliminate the need to stop.
- Combine errands and minimize stop-and-go driving.
- Close the windows for high-speed driving.
- Drive at reasonable speeds (traveling at 55 mph (88 km/h) uses 15% less fuel than traveling at 65 mph (105 km/h)).
- Keep the tires properly inflated and use only the recommended size.
- Use the recommended engine oil.
- Perform all regularly scheduled maintenance.

Avoid these actions; they reduce your fuel economy:

- Sudden accelerations or hard accelerations.
- Revving the engine before switching it off.
- Idle for periods longer than one minute.
- Warm up your vehicle on cold mornings.
- Use the air conditioner or front defroster.
- Use the speed control in hilly terrain.
- Rest your foot on the brake pedal while driving.
- Drive a heavily loaded vehicle or tow a trailer.

# Driving Hints

- Carry unnecessary weight (approximately 1 mpg [0.4 km/L] is lost for every 395 lb (180 kg) of weight carried).
- Driving with the wheels out of alignment.

## Conditions

- Heavily loading a vehicle or towing a trailer may reduce fuel economy at any speed.
- Adding certain accessories to your vehicle (for example bug deflectors, rollbars, light bars, running boards, ski racks or luggage racks) may reduce fuel economy.
- To maximize the fuel economy, drive with the tonneau cover installed (if equipped).
- Using fuel blended with alcohol may lower fuel economy.
- Fuel economy may decrease with lower temperatures during the first 5–10 mi (12–16 km) of driving.
- Driving on flat terrain offers improved fuel economy as compared to driving on hilly terrain.
- Transmissions give their best fuel economy when operated in the top cruise gear and with steady pressure on the gas pedal.
- Four-wheel-drive operation (if equipped) is less fuel efficient than two-wheel-drive operation.
- Close the windows for high-speed driving.

## COLD WEATHER PRECAUTIONS

The functional operation of some components and systems can be affected at temperatures below approximately -13°F (-25°C).

## BREAKING-IN

**Note:** *Vehicles used for driver training or on an emergency vehicle operator course must also complete the 1,000 mi (1,600 km) break-in process before training can begin.*

You need to break in new tires for approximately 300 mi (480 km). During this time, your vehicle could exhibit some unusual driving characteristics.

Do not tow during the first 1,000 mi (1,600 km).

## DRIVING THROUGH WATER



**WARNING:** Do not drive through flowing or deep water as you may lose control of your vehicle.

**Note:** *Driving through standing water can cause vehicle damage.*

**Note:** *Engine damage can occur if water enters the air filter.*

Before driving through standing water, check the depth. Never drive through water that is higher than the bottom of the front rocker area of your vehicle.



# Driving Hints

When driving through standing water, drive very slowly and do not stop your vehicle. Your brake performance and traction may be limited. After driving through water and as soon as it is safe to do so:

- Lightly press the brake pedal to dry the brakes and to check that they work.
- Check that the horn works.
- Check that the exterior lights work.
- Turn the steering wheel to check that the steering power assist works.

## FLOOR MATS

**WARNING:** Use a floor mat designed to fit the footwell of your vehicle that does not obstruct the pedal area. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Pedals that cannot move freely can cause loss of vehicle control and increase the risk of serious personal injury.

**WARNING:** Secure the floor mat to both retention devices so that it cannot slip out of position and interfere with the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Do not place additional floor mats or any other covering on top of the original floor mats. This could result in the floor mat interfering with the operation of the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Always make sure that objects cannot fall into the driver foot well while your vehicle is moving. Objects that are loose can become trapped under the pedals causing a loss of vehicle control.



To install the floor mats, position the floor mat eyelet over the retention post and press down to lock in position.

To remove the floor mat, reverse the installation procedure.

**Note:** Regularly check the floor mats to make sure they are secure.

# Roadside Emergencies

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## ROADSIDE ASSISTANCE

### Vehicles Sold in the United States: Getting Roadside Assistance

To fully assist you should you have a vehicle concern, Ford Motor Company offers a complimentary roadside assistance program. This program is separate from the New Vehicle Limited Warranty.

The service is available:

- 24 hours a day, seven days a week.
- For the coverage period supplied with your vehicle.

Roadside Assistance covers:

- A flat tire change with a good spare (except vehicles supplied with a tire inflation kit).
- Battery jump start.
- Lock-out assistance (key replacement cost is the customer's responsibility).
- Fuel delivery — independent service contractors, if not prohibited by state, local or municipal law, shall deliver up to 2 gal (8 L) of gasoline or 5 gal (20 L) of diesel fuel to a disabled vehicle. Roadside Assistance limits fuel delivery service to two no-charge occurrences within a 12-month period.
- Winch out — available within 100 ft (30 m) of a paved or county maintained road, no recoveries.

- Towing — independent service contractors, if not prohibited by state, local or municipal law, shall tow Ford eligible vehicles to an authorized dealer within 35 mi (56 km) of the disablement location or to the nearest authorized dealer. If a member requests a tow to an authorized dealer that is more than 35 mi (56 km) from the disablement location, the member shall be responsible for any mileage costs in excess of 35 mi (56 km).
- Roadside Assistance includes up to \$200 for a towed trailer if the disabled eligible vehicle requires service at the nearest authorized dealer. If the towing vehicle is operational but the trailer is not, then the trailer does not qualify for any roadside services.

### Vehicles Sold in the United States: Using Roadside Assistance

Complete the roadside assistance identification card and place it in your wallet for quick reference. This card is in the Owner's Manual kit.

United States vehicle customers who require Roadside Assistance, call 1-800-241-3673.

If you need to arrange roadside assistance for yourself, Ford Motor Company reimburses a reasonable amount for towing to the nearest dealership within 35 mi (56 km). To obtain reimbursement information, United States vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

# Roadside Emergencies

## Vehicles Sold in Canada: Getting Roadside Assistance

To fully assist you should you have a vehicle concern, Ford Motor Company of Canada, Limited offers a complimentary roadside assistance program. This program is eligible within Canada or the continental United States.

The service is available 24 hours a day, seven days a week.

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle. Canadian roadside coverage and benefits may differ from the U.S. coverage.

If you require more information, please call us in Canada at 1-800-665-2006, or visit our website at [www.ford.ca](http://www.ford.ca).

## HAZARD FLASHERS


**Note:** *The hazard flashers operate when the ignition is in any position, or if the key is not in the ignition. If used when the vehicle is not running, the battery loses charge. As a result, there may be insufficient power to restart your vehicle.*



The flasher control is on the instrument panel. Use your hazard flashers when your vehicle is creating a safety hazard for other motorists.

- Press the flasher control and all front and rear direction indicators flash.
- Press the button again to switch them off.

## FUEL SHUTOFF

 **WARNING:** If your vehicle has been involved in a crash, have the fuel system checked. Failure to follow this instruction could result in fire, personal injury or death.

**Note:** *When you try to restart your vehicle after a fuel shutoff, the vehicle makes sure that various systems are safe to restart. Once the vehicle determines the systems are safe, then the vehicle allows you to restart.*

**Note:** *In the event that your vehicle does not restart after your third attempt, contact a qualified technician.*

The fuel pump shutoff stops the flow of fuel to the engine in the event of a moderate to severe crash. Not every impact causes a shutoff.

Should your vehicle shut off after a crash, you may restart your vehicle.

If your vehicle has a key system:

1. Switch off the ignition.
2. Switch to start position.
3. Switch off the ignition.
4. Switch on the ignition to re-enable the fuel pump.
5. If the vehicle does not start, repeat steps 1 through 4.

If your vehicle has a push button start system:

1. Press **START/STOP** to switch off your vehicle.
2. Press the brake pedal and **START/STOP** to switch on your vehicle.
3. Remove your foot from the brake pedal and press **START/STOP** to switch off your vehicle.

# Roadside Emergencies

- You can attempt to start the vehicle by pressing the brake pedal and **START/STOP**, or press **START/STOP** without pressing the brake pedal.
- If the vehicle does not start, repeat steps 1 through 4.

## JUMP STARTING THE VEHICLE



**WARNING:** Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.



**WARNING:** Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.



**WARNING:** Use only adequately sized cables with insulated clamps.

## Preparing Your Vehicle

Do not attempt to push-start your automatic transmission vehicle.

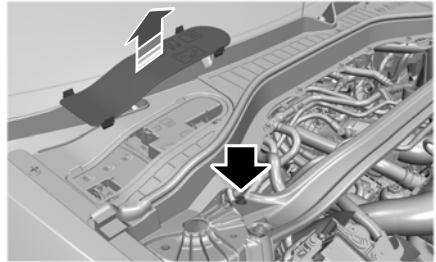
**Note:** Attempting to push-start a vehicle with an automatic transmission may cause transmission damage.

**Note:** Use only a 12-volt supply to start your vehicle.

**Note:** Do not disconnect the battery of the disabled vehicle as this could damage the vehicle electrical system.

Park the booster vehicle close to the hood of the disabled vehicle, making sure the two vehicles do not touch.

## Locating the Jump Starting Connection Points



E288229

- Open the hood. See **Opening and Closing the Hood** (page 218).
- Remove the access cover.
- Remove the red protective cover from the positive lead jump connection point.
- Locate the negative jump connection point on the rear mounting bolt for the cross brace, as shown.

## Connecting the Jumper Cables



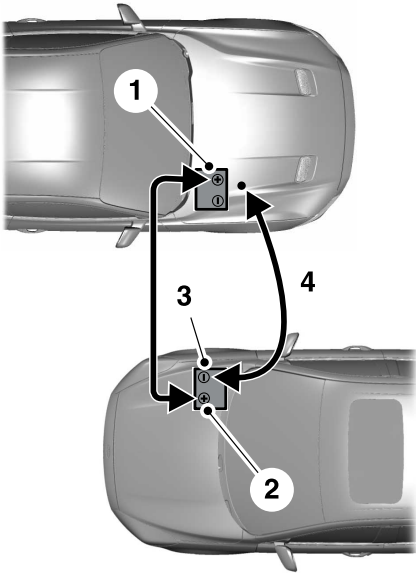
**WARNING:** If the engine is running while the hood is open, stay clear of moving engine components. Failure to follow this warning could result in serious personal injury or death.



**WARNING:** Do not connect the negative jumper cable to any other part of your vehicle. Use the ground point.

# Roadside Emergencies

**Note:** In the illustration, the bottom vehicle represents the booster vehicle.



1. Connect the positive (+) jumper cable to the positive (+) terminal of the discharged battery.
2. Connect the other end of the positive (+) cable to the positive (+) terminal of the booster vehicle battery.
3. Connect the negative (-) cable to the negative (-) terminal of the booster vehicle battery.
4. Make the final connection of the negative (-) cable to an exposed metal part of the stalled vehicle's engine, away from the battery and the fuel injection system, or connect the negative (-) cable to a ground connection point if available.

## Jump Starting

**Note:** If you are using a hybrid vehicle as the booster vehicle, you do not need to rev the engine.

1. Start the engine of the booster vehicle and rev the engine moderately, or press the accelerator gently to keep your engine speed between 2000 and 3000 RPM, as shown in your tachometer.
2. Start the engine of the disabled vehicle.
3. Once the disabled vehicle has been started, run both vehicle engines for an additional three minutes before disconnecting the jumper cables.

## Removing the Jumper Cables

Remove the jumper cables in the reverse order that they were connected.

1. Remove the negative (-) jumper cable from the disabled vehicle.
2. Remove the jumper cable on the negative (-) terminal of the booster vehicle battery.
3. Remove the jumper cable from the positive (+) terminal of the booster vehicle battery.
4. Remove the jumper cable from the positive (+) terminal of the disabled vehicle battery.
5. Allow the engine to idle for at least one minute.



# Roadside Emergencies

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## **COLLISION, DAMAGE OR FIRE EVENT**

### **Guidance for Ford Motor Company Electric and Hybrid-Electric Vehicles Equipped With High Voltage Batteries**

#### **(Vehicle Owner/Operator/General Public) Electric and Hybrid-Electric Vehicle Considerations**

In the event of damage or fire involving an electric vehicle or hybrid-electric vehicle:

- Always assume the high-voltage battery and associated components are energized and fully charged.
- Exposed electrical components, wires, and high-voltage batteries present potential high-voltage shock hazards.
- Venting high-voltage battery vapors are potentially toxic and flammable.
- Physical damage to the vehicle or high-voltage battery may result in immediate or delayed release of toxic, flammable gases and fire.

Vehicle information and general safety practices:

- Know the make and model of your vehicle.
- Review the owner's manual and become familiar with your vehicle's safety information and recommended safety practices.
- Do not attempt to repair damaged electric and hybrid-electric vehicles yourself.

Contact an authorized dealer.

## **Crashes**

A crash or impact significant enough to require an emergency response for conventional vehicles would also require the same response for an electric or hybrid-electric vehicle.

If possible:

- Move your vehicle to a safe, nearby location and remain on the scene.
- Roll down the windows before switching your vehicle off.
- Place your vehicle in park (P), set the parking brake, switch off the vehicle, activate the hazard warning flashers and move your key(s) at least 15 ft (5 m) away from the vehicle.

Always:

- Call emergency assistance if needed and advise that an electric or hybrid-electric vehicle is involved.
- Exposed electrical components, wires, and high-voltage batteries present potential high-voltage shock hazards.
- Avoid contact with leaking fluids and gases, and remain out of the way of oncoming traffic until emergency responders arrive.
- When emergency responders arrive, tell them that the vehicle involved is an electric vehicle or hybrid-electric vehicle.

## **Fires**

As with any vehicle, call emergency assistance immediately if you see sparks, smoke or flames coming from the vehicle. Remain a safe distance from the vehicle and try to stay clear of the smoke.

- Exit the vehicle immediately.
- Advise emergency assistance that an electric or hybrid-electric vehicle is involved.

# Roadside Emergencies

- As with any vehicle fire, do not inhale smoke, vapors or gas from the vehicle, as they may be hazardous.
- Stay out of the roadway and stay out of the way of any oncoming traffic while awaiting the arrival of emergency responders.

## Post-Incident

- Do not store a severely damaged vehicle with a lithium-ion battery inside a structure or within 49 ft (15 m) of any structure or vehicle.
- Make sure that passenger and luggage compartments remain ventilated.
- Call emergency assistance if you observe leaking fluids, sparks, smoke or flames, or hear gurgling or bubbling from the high-voltage battery.

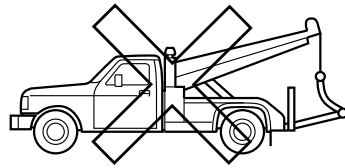
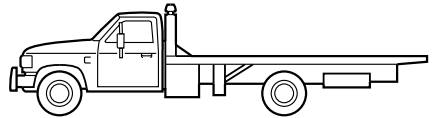
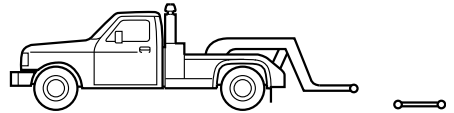
## POST-CRASH ALERT SYSTEM

The system flashes the direction indicators and sounds the horn (intermittently) in the event of a serious impact that deploys an airbag (front, side, side curtain or Safety Canopy) or the seatbelt pretensioners.

The horn and indicators turn off when:

- You press the hazard control button.
- You press the panic button on the remote entry transmitter (if equipped).
- Your vehicle runs out of power.
- Sounding of the horn is only enabled in specific markets.

## TRANSPORTING THE VEHICLE



If you need to tow your vehicle, contact a professional towing service or, if you are a member of a roadside assistance program, your roadside assistance service provider.

We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Do not tow with a slingbelt. We do not approve a slingbelt towing procedure. If you tow your vehicle incorrectly, or by any other means, vehicle damage may occur.

We produce a towing manual for all authorized tow truck operators. Have your tow truck operator refer to this manual for proper hook-up and towing procedures for your vehicle.

# Roadside Emergencies

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Towing an all-wheel or four-wheel drive vehicle requires that all wheels be off the ground, such as using a wheel lift and dollies or flatbed equipment. This prevents damage to the transmission, all-wheel or four-wheel drive system and vehicle.

If your vehicle becomes inoperable without access to wheel dollies, a car-hauling trailer or a flatbed transport vehicle, you can flat-tow with all wheels on the ground under limited conditions. See **Towing the Vehicle on Four Wheels** (page 190).

# Customer Assistance

## GETTING THE SERVICES YOU NEED

Warranty repairs to your vehicle must be performed by an authorized dealer. While any authorized dealer handling your vehicle line will provide warranty service, we recommend you return to your selling authorized dealer who wants to ensure your continued satisfaction.

Please note that certain warranty repairs require special training and equipment, so not all authorized dealers are authorized to perform all warranty repairs. This means that, depending on the warranty repair needed, you may have to take your vehicle to another authorized dealer.

A reasonable time must be allowed to perform a repair after taking your vehicle to the authorized dealer. Repairs will be made using Ford or Motorcraft® parts, or remanufactured or other parts that are authorized by Ford.

### Away From Home

If you are away from home when your vehicle needs service, contact the Ford Customer Relationship Center or use the online resources listed below to find the nearest authorized dealer.

In the United States:

#### Mailing address

Ford Motor Company  
Customer Relationship Center  
P.O. Box 6248  
Dearborn, MI 48126

#### Telephone

1-800-392-3673 (FORD)  
(TDD for the hearing impaired:  
1-800-232-5952)

If your vehicle is configured as a motorhome please call 1-800-444-3311 for support.

Additional information and resources are available online:

Website
<a href="http://www.owner.ford.com">www.owner.ford.com</a>

These are some of the items that can be found online:

- U.S. dealer locator by Dealer Name, City/State or Zip Code.
- Owner Manuals.
- Maintenance Schedules.
- Recalls.
- Ford Extended Service Plans.
- Ford Genuine Accessories.
- Service specials and promotions.

In Canada:

#### Mailing address

Customer Relationship Centre  
Ford Motor Company of Canada, Limited  
P.O. Box 2000  
Oakville, Ontario L6K 0C8

#### Telephone

1-800-565-3673 (FORD)  
(TDD for the hearing impaired:  
1-888-658-6805)

Website
<a href="http://www.ford.ca">www.ford.ca</a>

#### Facebook

FordServiceCA (English)  
FordServiceQC (Français)

#### Twitter

@FordServiceCA

# Customer Assistance

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## Additional Assistance

If you have questions or concerns, or are unsatisfied with the service you are receiving, follow these steps:

1. Contact your Sales Representative or Service Advisor at your selling or servicing authorized dealer.
2. If your inquiry or concern remains unresolved, contact the Sales Manager, Service Manager or Customer Relations Manager.
3. If you require assistance or clarification on Ford Motor Company policies, please contact the Ford Customer Relationship Center.

In order to help us serve you better, please have the following information available when contacting a Customer Relationship Center:

- Vehicle Identification Number.
- Your telephone number (home and business).
- The name of the authorized dealer and city where located.
- The vehicle's current odometer reading.

In some states within the United States, you must directly notify Ford in writing before pursuing remedies under your state's warranty laws, and Ford is also allowed a final repair attempt.

Additionally, in some states within the United States, a consumer has the option of submitting a warranty dispute to the BBB Auto Line before taking action under the Magnuson-Moss Warranty Act, or to the extent allowed by state law, before pursuing replacement or repurchase remedies provided by certain state laws. This dispute handling procedure is not required prior to enforcing state created rights or other rights which are independent of the Magnuson-Moss Warranty Act or state replacement or repurchase laws.

## IN CALIFORNIA (U.S. ONLY)

California Civil Code Section 1793.2(d) requires that, if a manufacturer or its representative is unable to repair a motor vehicle to conform to the vehicle's applicable express warranty after a reasonable number of attempts, the manufacturer shall be required to either replace the vehicle with one substantially identical or repurchase the vehicle and reimburse the buyer in an amount equal to the actual price paid or payable by the consumer (less a reasonable allowance for consumer use). The consumer has the right to choose whether to receive a refund or replacement vehicle.

California Civil Code Section 1793.22(b) presumes that the manufacturer has had a reasonable number of attempts to conform the vehicle to its applicable express warranties if, within the first 18 months of ownership of a new vehicle or the first 18,000 mi (29,000 km), whichever occurs first:

1. Two or more repair attempts are made on the same non-conformity likely to cause death or serious bodily injury OR
2. Four or more repair attempts are made on the same nonconformity (a defect or condition that substantially impairs the use, value or safety of the vehicle) OR
3. The vehicle is out of service for repair of nonconformities for a total of more than 30 calendar days (not necessarily all at one time).

In the case of 1 or 2 above, the consumer must also notify the manufacturer of the need for the repair of the nonconformity at the following address:

Ford Motor Company  
16800 Executive Plaza Drive  
Mail Drop 3NE-B  
Dearborn, MI 48126

## Customer Assistance

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You are required to submit your warranty dispute to BBB AUTO LINE before asserting in court any rights or remedies conferred by California Civil Code Section 1793.22(b). You are also required to use BBB AUTO LINE before exercising rights or seeking remedies created by the Federal Magnuson-Moss Warranty Act, 15 U.S.C. sec. 2301 et seq. If you choose to seek redress by pursuing rights and remedies not created by California Civil Code Section 1793.22(b) or the Magnuson-Moss Warranty Act, resort to BBB AUTO LINE is not required by those statutes.

### **THE BETTER BUSINESS BUREAU (BBB) AUTO LINE PROGRAM (U.S. ONLY)**

Your satisfaction is important to Ford Motor Company and to your dealer. If a warranty concern has not been resolved using the three-step procedure outlined earlier in this chapter in the Getting the Services you need section, you may be eligible to participate in the BBB AUTO LINE program.

The BBB AUTO LINE program consists of two parts – mediation and arbitration. During mediation, a representative of the BBB will contact both you and Ford Motor Company to explore options for settlement of the claim. If an agreement is not reached during mediation or you do not want to participate in mediation, and if your claim is eligible, you may participate in the arbitration process. An arbitration hearing will be scheduled so that you can present your case in an informal setting before an impartial person. The arbitrator will consider the testimony provided and make a decision after the hearing.

Disputes submitted to the BBB AUTO LINE program are usually decided within forty days after you file your claim with the BBB. You are not bound by the decision, and may reject the decision and proceed to court where all findings of the BBB Auto Line dispute, and decision, are admissible in the court action. Should you choose to accept the BBB AUTO LINE decision, Ford is then bound by the decision, and must comply with the decision within 30 days of receipt of your acceptance letter.

**BBB AUTO LINE Application:** Using the information provided below, please call or write to request a program application. You will be asked for your name and address, general information about your new vehicle, information about your warranty concerns, and any steps you have already taken to try to resolve them. A Customer Claim Form will be mailed that will need to be completed, signed and returned to the BBB along with proof of ownership. Upon receipt, the BBB will review the claim for eligibility under the Program Summary Guidelines.

**You can get more information by calling BBB AUTO LINE at 1-800-955-5100, or writing to:**

**BBB AUTO LINE  
3033 Wilson Boulevard, Suite 600  
Arlington, Virginia 22201**

BBB AUTO LINE applications can also be requested by calling the Ford Motor Company Customer Relationship Center at 1-800-392-3673.

For additional information refer to the Better Business Bureau website.

**Note:** *Ford Motor Company reserves the right to change eligibility limitations, modify procedures, or to discontinue this process at any time without notice and without obligation.*

# Customer Assistance

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## UTILIZING THE MEDIATION/ARBITRATION PROGRAM (CANADA ONLY)

For vehicles delivered to authorized Canadian dealers. In those cases where you continue to feel that the efforts by Ford of Canada and the authorized dealer to resolve a factory-related vehicle service concern have been unsatisfactory, Ford of Canada participates in an impartial third party mediation/arbitration program administered by the Canadian Motor Vehicle Arbitration Plan (CAMVAP).

The CAMVAP program is a straight forward and relatively speedy alternative to resolve a disagreement when all other efforts to produce a settlement have failed. This procedure is without cost to you and is designed to eliminate the need for lengthy and expensive legal proceedings.

In the CAMVAP program, impartial third-party arbitrators conduct hearings at mutually convenient times and places in an informal environment. These impartial arbitrators review the positions of the parties, make decisions and, when appropriate, render awards to resolve disputes. CAMVAP decisions are fast, fair, and final as the arbitrator's award is binding on both you and Ford of Canada.

CAMVAP services are available in all Canadian territories and provinces. For more information, without charge or obligation, call your CAMVAP Provincial Administrator directly at 1-800-207-0685 or visit [www.camvap.ca](http://www.camvap.ca).

## GETTING ASSISTANCE OUTSIDE THE U.S. AND CANADA

Before exporting your vehicle to a foreign country, contact the appropriate foreign embassy or consulate. These officials can inform you of local vehicle registration regulations and where to find unleaded fuel or petrol/gas engines or the proper sulfur fuel for diesel engines.

If you cannot find the proper fuel recommended for your vehicle, contact our Customer Relationship Center.

The use of improper fuels in your vehicle without proper conversion may damage the effectiveness of your emission control system and may cause engine knocking or serious engine damage. Ford Motor Company or Ford of Canada is not responsible for any damage caused by use of improper fuel. Using improper fuels may also result in difficulty importing your vehicle back into the United States.

If your vehicle must be serviced while you are traveling or living in Asia-Pacific Region, Sub-Saharan Africa, U.S. Virgin Islands and/or Puerto Rico, Central America, the Caribbean, and Israel and the Middle East, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact the corresponding Ford Customer Assistance Center:

**FORD MOTOR COMPANY**  
**Customer Relationship Centers in:**

## Customer Assistance

Customer Relationship Center	Phone	Fax	E-mail
Asia Pacific	N/A	N/A	apemcrc@ford.com
Caribbean and Central America	+1-800-841-3673	N/A	atnclien@ford.com
Middle East	Ford 80004443673	971 4 3327 266	menacac@ford.com
	Lincoln 80004441067		
	UAE 80004441066		
	Saudi Arabia 8008443673		
	Mobily and Zain cell phone users in Saudi 800850078		
Kuwait 22280384			
North Africa	N/A	N/A	nafcrc@ford.com
Puerto Rico and U.S. Virgin Islands	+1-800-841-3673	N/A	atnclien@ford.com
Sub-Saharan Africa	N/A	N/A	ssacrc@ford.com
South Korea	+82-02-1600-6003	N/A	infokr1@ford.com or infokr@lincoln.com

If you buy your vehicle in North America and then relocate to any of the above locations, register your vehicle identification number (VIN) and new address with Ford Global Trade Services by emailing, [expcso@ford.com](mailto:expcso@ford.com).

If you are in another foreign country, contact the nearest authorized dealer. In the event your inquiry is unresolved, communicate your concern with the dealership's Sales Manager, Service Manager or Customer Relations Manager. If you require additional assistance or clarification, please contact the respective Customer Relationship Center as previously listed.

**Customers in the U.S. should call 1-800-392-3673.**



# Customer Assistance

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## **ORDERING ADDITIONAL OWNER'S LITERATURE**

To order the publications in this portfolio, contact Helm, LLC at:

HELM, LLC  
47911 Halyard Drive, Suite 200  
Plymouth, Michigan 48170  
Attention: Customer Service

Or to order a free publication catalog, call toll free: 1-800-782-4356

Monday-Friday 8:00 a.m. - 6:00 p.m. EST

Helm, LLC can also be reached by their website:

[www.helminc.com](http://www.helminc.com)

(Items in this catalog may be purchased by credit card, check or money order.)

## **Obtaining a French Owner's Manual**

French Owner's Manual can be obtained from your authorized dealer or by contacting Helm, LLC using the contact information listed previously in this section.

## **REPORTING SAFETY DEFECTS (U.S. ONLY)**

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Ford Motor Company.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Ford Motor Company.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to [www.safercar.gov](http://www.safercar.gov); or write to:

Administrator

1200 New Jersey Avenue,  
Southeast

Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from [www.safercar.gov](http://www.safercar.gov).

## **REPORTING SAFETY DEFECTS (CANADA ONLY)**

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada and Ford of Canada.

# Customer Assistance

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<b>Transport Canada Contact Information</b>	
Website	<a href="http://www.tc.gc.ca/eng/motorvehiclesafety/reporting-defects-motor-vehicles.html">http://www.tc.gc.ca/eng/motorvehiclesafety/reporting-defects-motor-vehicles.html</a> (English)
Website	<a href="http://www.tc.gc.ca/fra/secureteautomobile/signaler-defauts-vehicules-automobiles.html">http://www.tc.gc.ca/fra/secureteautomobile/signaler-defauts-vehicules-automobiles.html</a> (French)
Phone	1-800-333-0510

<b>Ford of Canada Contact Information</b>	
Website	<a href="http://www.ford.ca">www.ford.ca</a>
Phone	1-800-565-3673

# Fuses

## FUSE SPECIFICATION CHART

### Engine Compartment Fuse Box



**WARNING:** Always disconnect the battery before servicing high current fuses.

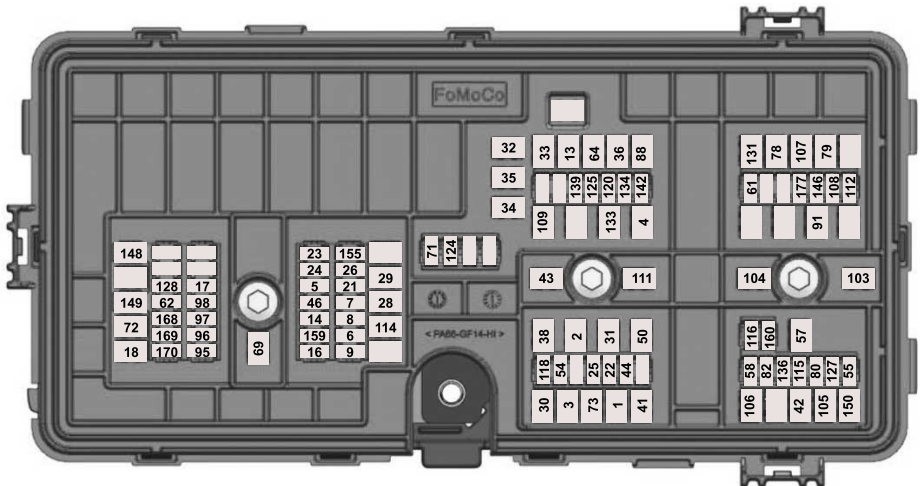


**WARNING:** To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.

The engine compartment fuse box is under the driver side leaf screen in the engine compartment. It has high-current fuses that protect your vehicle's main electrical systems from overloads.

If you disconnect and reconnect the battery, you need to reset some features. See **Changing the 12V Battery** (page 231).

**Note:** Replace fuses with the same type and rating. See **Changing a Fuse** (page 216).



E288347

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
1	40A	Body control module - battery power in feed 1.
2	20A	Power outlet main console bin.
3	40A	Body control module - battery power in feed 2.
4	30A	Fuel pump.
5	5A	Powertrain control module keep alive power.
6	20A	Powertrain control module power.
7	20A	Canister vent solenoid. Evaporative leak control module. Exhaust gas heat recovery (hybrid electric vehicle). Tank pressure control valve (hybrid electric vehicle). Vapor blocking valve. Universal exhaust gas oxygen 11. Universal exhaust gas oxygen 21. Catalyst monitor sensor 12. Catalyst monitor sensor 22. Fuel flap door (hybrid electric vehicle).
8	20A	Cooling fan relay coil. Battery interrupt box. Transmission oil pump. Auxiliary coolant pump. Engine coolant bypass valve. Electric A/C compressor (hybrid electric vehicle). Active grille shutters.
9	20A	Ignition coils.
13	40A	Front blower motor relay.
14	15A	Transmission oil pump. A/C compressor variable clutch. Auxiliary pumps (hybrid electric vehicle). Electric A/C compressor (hybrid electric vehicle).

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
		Active grille shutters.
16	15A	Windshield and rear window washer pump relay power.
17	5A	Charge status indicator (hybrid electric vehicle).
18	30A	Starter motor.
21	10A	Headlamp red and blue flasher.
22	10A	Electric power assisted steering module.
23	10A	Anti-lock brake system module with integrated park brake.
24	10A	Powertrain control module. Hybrid powertrain control module.
25	10A	Air quality sensor. 360 camera with park aid. Rear view camera. Blind spot information system. Adaptive cruise control module.
26	15A	Transmission control module.
28	40A	Anti-lock brake system valves with integrated park brake.
29	60A	Anti-lock brake system pump with integrated park brake.
30	30A	Driver seat module.
31	30A	Passenger seat motor.
32	20A	Front media bin power point.
33	20A	Rear cargo area power point.
34	20A	Console end cap power point.
35	20A	Console end cap power point.
36	40A	Power inverter.
38	30A	Climate controlled seat module.

# Fuses

<b>Fuse or Relay Number</b>	<b>Fuse Rating</b>	<b>Protected Component</b>
41	30A	Power liftgate module.
42	30A	Trailer brake control module.
43	60A	Body control module.
44	10A	Brake on and off switch.
46	15A	Battery charger control module (hybrid electric vehicle).
50	40A	Heated backlite.
54	20A	Visor control module. Run/start access feed.
55	20A	Trailer tow park lamps.
57	30A	Trailer tow battery charge.
58	10A	Trailer tow backup lamps.
61	15A	Not used (spare).
62	15A	Headlamp washer pump.
64	40A	Four-wheel drive module.
69	30A	Front window wiper motor.
71	15A	Rear window wiper motor.
72	20A	Not used (spare).
73	30A	Driver door module.
78	—	Not used.
79	—	Not used.
80	20A	Not used (spare).
82	20A	Not used (spare).
88	20A	Rear blower motor.
91	20A	Trailer tow lighting module.
95	15A	Integrated spark control (hybrid electric vehicle).

## Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
96	15A	Not used (spare).
97	10A	Electric AC (hybrid electric vehicle). High voltage positive temperature coefficient heater (hybrid electric vehicle).
98	10A	Traction battery coolant proportional valve (hybrid electric vehicle).
103	50A	Rear power lug.
104	50A	Rear power lug.
105	40A	Not used (spare).
106	40A	B+ feed.
107	40A	B+ feed.
108	20A	Spot lamp.
109	30A	Passenger door module.
111	30A	Body control module voltage quality monitor feed.
112	20A	Not used (spare).
114	50A	Not used (spare).
115	20A	B+ feed.
116	5A	Start access circuit.
118	20A	Run/start feed.
120	15A	Port fuel injectors.
124	5A	Rain sensor.
125	5A	USB smart charger 1.
127	20A	B+ feed. Rear traffic advisor. Visor control module.
128	15A	Not used (spare).
131	—	Not used.
133	—	Not used.

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
134	10A	Delay accessory power.
136	20A	Not used (spare).
139	5A	USB smart charger 2.
142	5A	Traffic cam.
146	15A	Battery electronic control module.
148	30A	Left-hand headlamp module.
149	30A	Right-hand headlamp module.
150	40A	B+ feed.
155	25A	Transmission control module (hybrid electric vehicle).
159	15A	DC/DC converter (hybrid electric vehicle).
160	10A	B+ feed. Front warning lights. Strobes.
168	20A	Low voltage service disconnect.
169	10A	Coolant pump (hybrid electric vehicle).
170	10A	Traction battery coolant pump (hybrid electric vehicle). Pedestrian sounder (hybrid electric vehicle).
177	10A	Not used (spare).

**Note:** Spare fuse amperage may vary.

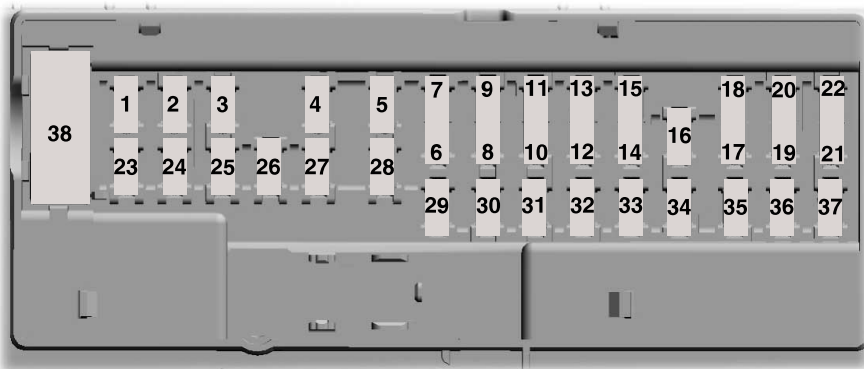
## Passenger Compartment Fuse Panel

The fuse panel is under the instrument panel to the left of the steering column.

**Note:** It may be easier to access the fuse panel if you remove the finish trim piece.



## Fuses



Fuse or Relay Number	Fuse Rating	Protected Component
1	—	Not used.
2	10A	Moonroof. Inverter. Telematics control unit module. Driver door switch pack.
3	7.5A	Memory seat switch. Wireless accessory charger module. Seat switches.
4	20A	Not used (spare).
5	—	Not used.
6	10A	Not used.
7	10A	Smart data link connector power.
8	5A	Telematics control unit module. Hands-free liftgate actuation module. Power liftgate module.
9	5A	Keypad switch. Rear climate control.

# Fuses

<b>Fuse or Relay Number</b>	<b>Fuse Rating</b>	<b>Protected Component</b>
10	—	Not used.
11	—	Not used.
12	7.5A	Climate control head. Gear shift module.
13	7.5A	Steering column control module. Smart datalink connector. Instrument cluster.
14	15A	Not used (spare).
15	15A	SYNC. Integrated control panel.
16	—	Not used.
17	7.5A	Headlamp control module.
18	7.5A	Steering wheel interface.
19	5A	Headlamp switch.
20	5A	Ignition switch. Telematics control unit module. Key inhibit solenoid lock.
21	5A	Not used.
22	5A	Not used (spare).
23	30A	Not used (spare).
24	30A	Moonroof.
25	20A	Not used (spare).
26	30A	Not used (spare).
27	30A	Not used (spare).
28	30A	Not used (spare).
29	15A	Integrated computer screen.
30	5A	Brake switch signal.
31	10A	Terrain management switch. Selectable drive mode switch. Transceiver module.

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
32	20A	Audio control module.
33	—	Not used.
34	30A	Run/start relay.
35	5A	Low gear select.
36	15A	Park assist module. Image processing module A.
37	20A	Not used (spare).
38	30A	Left-hand rear power window. Right-hand rear power window.

**Note:** Spare fuse amperage may vary.

## CHANGING A FUSE

### Fuses



**WARNING:** Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.

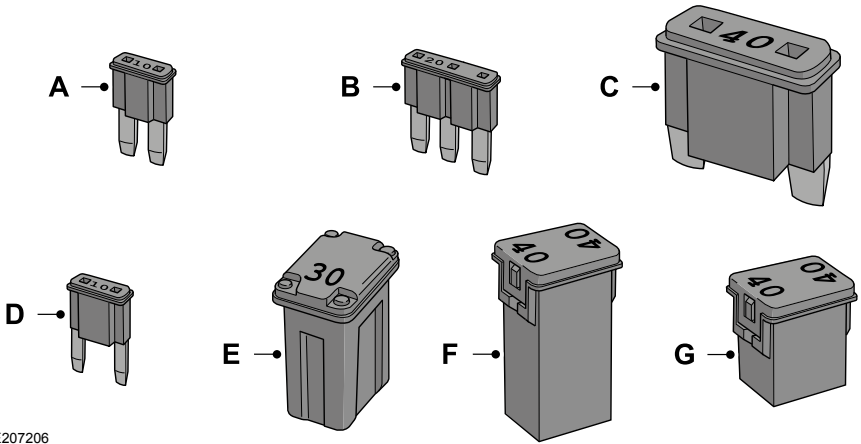


E217331

If electrical components in the vehicle are not working, a fuse may have blown. Blown fuses are identified by a broken wire within the fuse. Check the appropriate fuses before replacing any electrical components.

# Fuses

## Fuse Types



E207206

Callout	Fuse Type
A	Micro 2
B	Micro 3
C	Maxi
D	Mini
E	M Case
F	J Case
G	J Case Low Profile

# Maintenance

## GENERAL INFORMATION

Have your vehicle serviced regularly to help maintain its roadworthiness and resale value. There is a large network of authorized dealers that are there to help you with their professional servicing expertise. We believe that their specially trained technicians are best qualified to service your vehicle properly and expertly. They are supported by a wide range of highly specialized tools developed specifically for servicing your vehicle.

If your vehicle requires professional service, an authorized dealer can provide the necessary parts and service. Check your warranty information to find out which parts and services are covered.

Use only recommended fuels, lubricants, fluids and service parts conforming to specifications. Motorcraft® parts are designed and built to provide the best performance in your vehicle.

## Precautions

- Do not work on a hot engine.
- A hybrid powertrain starts and stops the gas internal combustion engine when the vehicle is in the **Ready to Drive** state, vehicle started, ignition on.
- When servicing a hybrid model, assume that the engine and other components such as the cooling fan are active devices. When working under the hood and the vehicle is on, take the necessary safety precautions.
- Make sure that nothing gets caught in moving parts.
- Do not work on a vehicle with the engine running in an enclosed space, unless you are sure you have enough ventilation.
- Keep all open flames and other burning material, such as cigarettes, away from the battery and all fuel related parts.

## Working with the Engine Off

1. Set the parking brake and shift the transmission to park (P).
2. Switch off the engine.
3. Block the wheels.

## Working with the Engine On

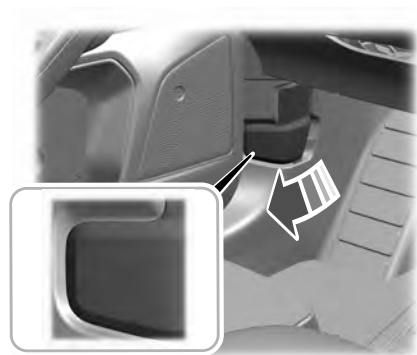


**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

1. Set the parking brake and shift the transmission to park (P).
2. Block the wheels.

## OPENING AND CLOSING THE HOOD

### Opening the Hood



E263274

1. Open the left-hand front door.
2. Fully pull the hood release lever and let it completely retract.

**Note:** *This action releases the hood latch.*

# Maintenance

3. Fully pull the hood release lever for a second time.

**Note:** *This action fully releases the hood.*

4. Open the hood.

**Note:** *There is no secondary latch under the hood.*



5. Support the hood with the prop rod.

## Closing the Hood

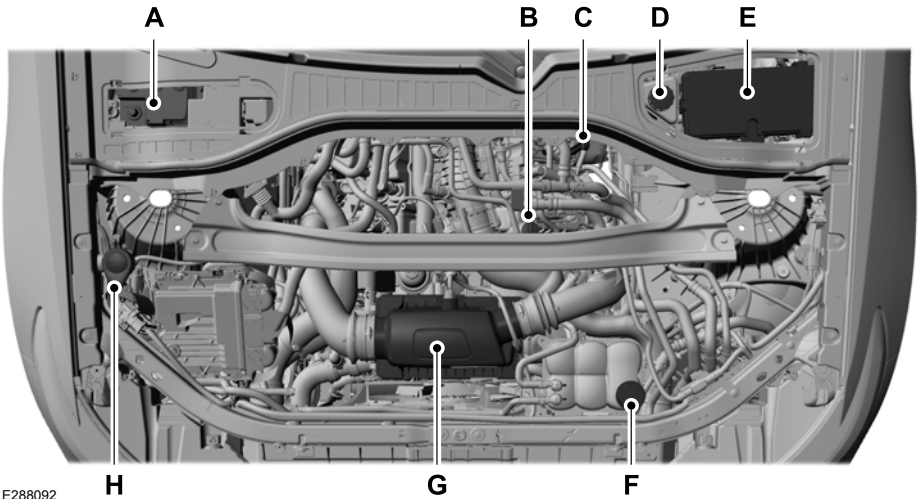
**WARNING:** Make sure that you fully latch the hood before driving. Failure to follow this instruction could result in personal injury or death.

1. Remove the prop rod from the catch and secure it correctly in the clip.
2. Lower the hood and allow it to drop under its own weight for the last 10–14 in (25–35 cm).

**Note:** *Make sure that the hood is correctly closed.*

# Maintenance

## UNDER HOOD OVERVIEW - 3.0L

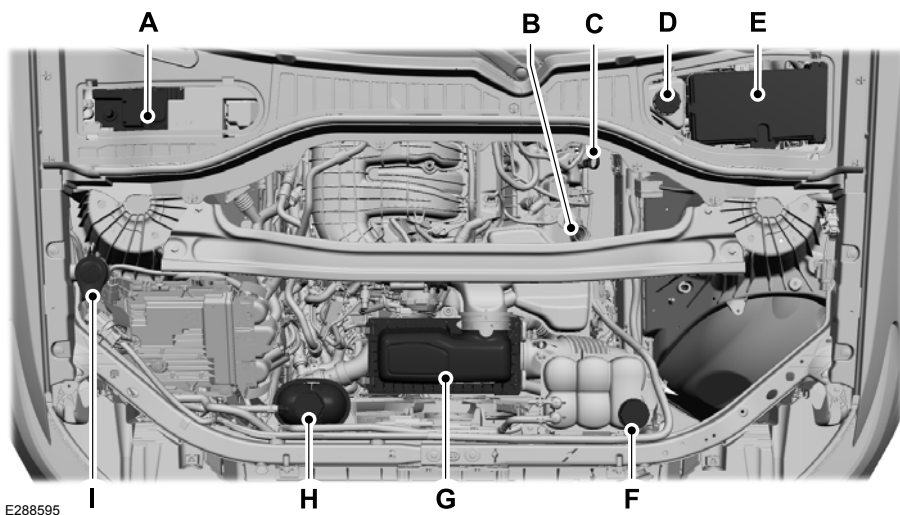


E288092

- A Battery. See **Changing the 12V Battery** (page 231).
- B Engine oil filler cap. See **Engine Oil Check** (page 222).
- C Engine oil dipstick. See **Engine Oil Dipstick** (page 222).
- D Brake fluid reservoir. See **Brake Fluid Check** (page 230).
- E Engine compartment fuse box. See **Fuses** (page 208).
- F Engine coolant reservoir. See **Engine Coolant Check** (page 226).
- G Air filter assembly. See **Changing the Engine Air Filter** (page 224).
- H Washer fluid reservoir. See **Washer Fluid Check** (page 235).

# Maintenance

## UNDER HOOD OVERVIEW - 3.3L



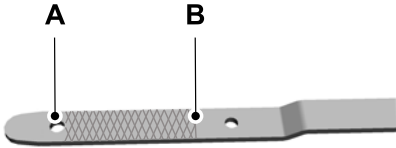
E288595

- A. Battery. See **Changing the 12V Battery** (page 231).
- B. Engine oil filler cap. See **Engine Oil Check** (page 222).
- C. Engine oil dipstick. See **Engine Oil Dipstick** (page 222).
- D. Brake fluid reservoir. See **Brake Fluid Check** (page 230).
- E. Engine compartment fuse box. See **Fuses** (page 208).
- F. Engine coolant reservoir cap. See **Engine Coolant Check** (page 226).
- G. Air filter assembly. See **Changing the Engine Air Filter** (page 225).
- H. Inverter system controller coolant reservoir cap- HEV only.
- I. Washer fluid reservoir. See **Washer Fluid Check** (page 235).



# Maintenance

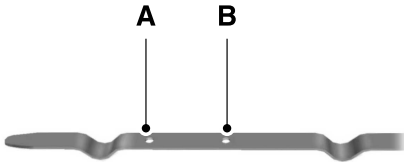
## ENGINE OIL DIPSTICK - 3.0L



E169062

- A MIN
- B MAX

## ENGINE OIL DIPSTICK - 3.3L



E146429

- A Minimum.
- B Maximum.

## ENGINE OIL CHECK

To check the engine oil level consistently and accurately, do the following:

1. Make sure the parking brake is on. Make sure the transmission is in park (P) or neutral (N).

2. Run the engine until it reaches normal operating temperature.
3. Make sure that your vehicle is on level ground.
4. Switch the engine off and wait 15 minutes for the oil to drain into the oil pan. Checking the engine oil level too soon after you switch the engine off may result in an inaccurate reading.
5. Open the hood. See **Opening and Closing the Hood** (page 218).
6. Remove the dipstick and wipe it with a clean, lint-free cloth. See **Under Hood Overview** (page 220).
7. Reinstall the dipstick and remove it again to check the oil level. See **Under Hood Overview** (page 220).
8. Make sure that the oil level is between the maximum and minimum marks. If the oil level is at the minimum mark, add oil immediately. See **Capacities and Specifications** (page 279).
9. If the oil level is correct, replace the dipstick and make sure it is fully seated.

**Note:** Do not remove the dipstick when the engine is running.

**Note:** If the oil level is between the maximum and minimum marks, the oil level is acceptable. Do not add oil.

**Note:** The oil consumption of new engines reaches its normal level after approximately 3,000 mi (5,000 km).

## Adding Engine Oil



**WARNING:** Do not remove the filler cap when the engine is running.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by the vehicle Warranty.

# Maintenance



Only use oils certified for gasoline engines by the American Petroleum Institute (API). An oil with this trademark symbol conforms to the current engine and emission system protection standards and fuel economy requirements of the International Lubricants Specification Advisory Committee (ILSAC).

To top up the engine oil level do the following:

1. Clean the area surrounding the engine oil filler cap before you remove it.
2. Remove the engine oil filler cap. See **Under Hood Overview** (page 220). Turn it counterclockwise and remove it.
3. Add engine oil that meets our specifications. See **Capacities and Specifications** (page 279). You may have to use a funnel to pour the engine oil into the opening.
4. Recheck the oil level.
5. If the oil level is correct, replace the dipstick and make sure it is fully seated.
6. Replace the engine oil filler cap. Turn it clockwise until you feel a strong resistance.

**Note:** Do not add oil further than the maximum mark. Oil levels above the maximum mark may cause engine damage.

**Note:** Make sure you install the oil filler cap correctly.

**Note:** Soak up any spillage with an absorbent cloth immediately.

## OIL CHANGE INDICATOR RESET

Use the information display controls on the steering wheel to reset the oil change indicator.

### From the main menu scroll to:

Message	Action and description
Settings	Press the right arrow button, then from this menu scroll to the following message.
Information	Press the right arrow button, then from this menu scroll to the following message.
Oil Life	Press the right arrow button, then from this menu scroll to the following message.
Hold OK to Reset	Press and hold the <b>OK</b> button until the instrument cluster displays the following message.  Reset Successful
	When the oil change indicator resets the instrument cluster displays 100%.  Remaining Life {00}%

# Maintenance

Message	Action and description
	If the instrument cluster displays one of the following messages, repeat the process.  Not Reset  Reset Cancelled

## CHANGING THE ENGINE AIR FILTER - 3.0L



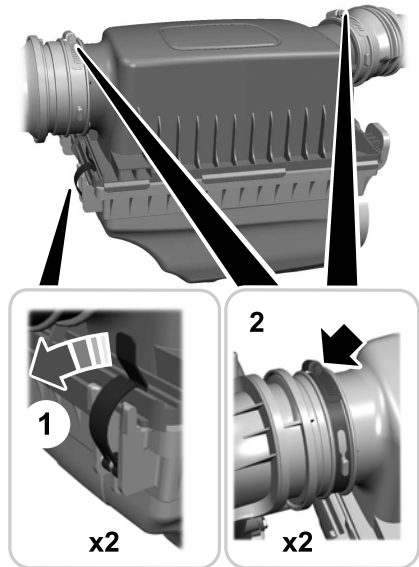
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

When changing the engine air filter, do not allow debris or foreign material to enter the air induction system. Engine components are susceptible to damage not covered by the vehicle Warranty.

Change the air filter element at the correct interval. See **Scheduled Maintenance** (page 326).

Incorrect component use can cause damage not covered by the vehicle Warranty. See **Motorcraft Parts** (page 277).

To replace the air filter element do the following:



1. Remove the clips that secure the air filter housing cover.
2. Using a screwdriver, loosen two clamps on either side of the air filter housing cover.
3. Gently pull the two boots back away from the air filter housing cover.
4. Carefully lift the air filter housing cover.
5. Remove the air filter element from the air filter housing.
6. Wipe any dirt or debris from the air filter housing and cover to make sure no dirt gets in the engine and that you have a good seal.

# Maintenance

7. Install a new air filter element. Be careful not to crimp the filter element edges between the air filter housing and cover. This could cause filter damage and allow unfiltered air to enter the engine if it is not properly seated.
8. Install the air filter housing cover.
9. Engage the clips to secure the air filter housing cover to the air filter housing.
10. Reconnect the two boots on the air filter housing cover and torque to 3.69 lb.ft (5 Nm).

## CHANGING THE ENGINE AIR FILTER - 3.3L



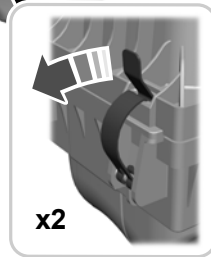
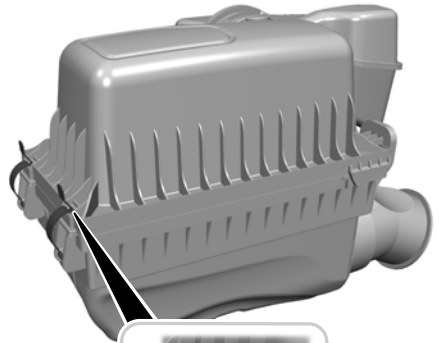
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

**Note:** Failure to use the correct air filter element may result in severe engine damage. Resulting component damage may not be covered by the vehicle Warranty.

**Note:** When servicing the air cleaner, do not allow foreign material to enter the air induction system. The engine is susceptible to damage from even small particles.

When changing the air filter element, use only the air filter element listed.

Change the air filter element at the proper intervals. See **Scheduled Maintenance** (page 326).



1. Release the clamps that secure the air filter cover to the housing.
2. Using a screwdriver, loosen the clamp on the air filter housing cover.
3. Gently pull the boot back away from the air filter housing cover.
4. Carefully lift the air filter housing cover.
5. Remove the air filter element from the air filter housing.
6. Wipe any dirt or debris from the air filter housing and cover to make sure no dirt gets in the engine and that you have a good seal.
7. Install a new air filter element. Be careful not to crimp the filter element edges between the air filter housing and cover. This could cause filter damage and allow unfiltered air to enter the engine if it is not properly seated.

# Maintenance

8. Install the air filter housing cover.
9. Engage the clips to secure the air filter housing cover to the air filter housing.
10. Reconnect the boot to the air filter housing cover and torque to 3.69 lb.ft (5 Nm).

## ENGINE COOLANT CHECK



**WARNING:** Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.



**WARNING:** Do not put coolant in the windshield washer reservoir. If sprayed on the windshield, coolant could make it difficult to see through the windshield.



**WARNING:** To reduce the risk of personal injury, make sure the engine is cool before unscrewing the coolant pressure relief cap. The cooling system is under pressure. Steam and hot liquid can come out forcefully when you loosen the cap slightly.



**WARNING:** Do not add coolant further than the **MAX** mark.

When the engine is cold, check the concentration and level of the coolant at the intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 326).

**Note:** Make sure that the coolant level is between the **MIN** and **MAX** marks on the coolant reservoir.

**Note:** Coolant expands when it is hot. The level may extend beyond the **MAX** mark.

Maintain coolant concentration within 48% to 50%, which equates to a freeze point between -29°F (-34°C) and -35°F (-37°C). Coolant concentration should be checked using a refractometer. We do not recommend the use of hydrometers or coolant test strips for measuring coolant concentration.

## Adding Coolant



**WARNING:** Do not add engine coolant when the engine is on or the cooling system is hot. Failure to follow this instruction could result in personal injury.



**WARNING:** Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.



**WARNING:** Do not put coolant in the windshield washer reservoir. If sprayed on the windshield, coolant could make it difficult to see through the windshield.

**Note:** Do not use stop leak pellets, cooling system sealants, or non-specified additives as they can cause damage to the engine cooling or heating systems. Resulting component damage may not be covered by the vehicle Warranty.

**Note:** Automotive fluids are not interchangeable.

# Maintenance

It is very important to use prediluted coolant approved to the correct specification in order to avoid plugging the small passageways in the engine cooling system. See **Capacities and Specifications** (page 279). Do not mix different colors or types of coolant in your vehicle. Mixing of engine coolants or using an incorrect coolant may harm the engine or cooling system components and may not be covered by the vehicle Warranty.

**Note:** *If prediluted coolant is not available, use the approved concentrated coolant diluting it to 50/50 with distilled water. See **Capacities and Specifications** (page 279). Using water that has not been deionised may contribute to deposit formation, corrosion and plugging of the small cooling system passageways.*

**Note:** *Coolants marketed for all makes and models may not be approved to our specifications and may cause damage to the cooling system. Resulting component damage may not be covered by the vehicle Warranty.*

If the coolant level is at or below the minimum mark, add prediluted coolant immediately.

To top up the coolant level do the following:

1. Unscrew the cap slowly. Any pressure escapes as you unscrew the cap.
2. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 279).
3. Add enough prediluted coolant to reach the correct level.
4. Replace the coolant reservoir cap. Turn the cap clockwise until it contacts the hard stop.

5. Check the coolant level in the coolant reservoir the next few times you drive your vehicle. If necessary, add enough prediluted engine coolant to bring the coolant level to the correct level.

If you have to add more than 1.1 qt (1 L) of engine coolant per month, have your vehicle checked as soon as possible. Operating an engine with a low level of coolant can result in engine overheating and possible engine damage.

In case of emergency, you can add a large amount of water without engine coolant in order to reach a vehicle service location. In this instance, qualified personnel:

1. Must drain the cooling system.
2. Chemically clean the coolant system.
3. Refill with engine coolant as soon as possible.

Water alone, without engine coolant, can cause engine damage from corrosion, overheating or freezing.

Do not use the following as a coolant substitute:

- Alcohol.
- Methanol.
- Brine.
- Any coolant mixed with alcohol or methanol antifreeze.

Alcohol and other liquids can cause engine damage from overheating or freezing.

Do not add extra inhibitors or additives to the coolant. These can be harmful and compromise the corrosion protection of the coolant.

## Recycled Coolant

We do not recommend the use of recycled coolant as an approved recycling process is not yet available.

**Note:** *Dispose of used coolant in the appropriate manner.*

# Maintenance

Follow your community's regulations and standards for recycling and disposing of automotive fluids.

## Severe Climates

If you drive in extremely cold climates:

- It may be necessary to increase the coolant concentration above 50%.
- A coolant concentration of 60% provides improved freeze point protection. Coolant concentrations above 60% decrease the overheat protection characteristics of the coolant and may cause engine damage.

If you drive in extremely hot climates:

- You can decrease the coolant concentration to 40%.
- Coolant concentrations below 40% decrease the freeze and corrosion protection characteristics of the coolant and may cause engine damage.

Vehicles driven year-round in non-extreme climates should use prediluted coolant for optimum cooling system and engine protection.

## Coolant Change

At specific mileage intervals, as listed in the scheduled maintenance information, the coolant should be changed. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 279).

## Fail-Safe Cooling

Fail-safe cooling allows you to temporarily drive your vehicle before any incremental component damage occurs. The fail-safe distance depends on ambient temperature, vehicle load and terrain.

## How Fail-Safe Cooling Works



If the engine begins to overheat, the coolant temperature gauge moves toward the red zone:



A warning lamp illuminates and a message may appear in the information display.

If the engine reaches a preset over-temperature condition, the engine automatically switches to alternating cylinder operation. Each disabled cylinder acts as an air pump and cools the engine.

When this occurs, your vehicle still operates, however:

- Engine power is limited.
- The air conditioning system turns off.

Continued operation increases the engine temperature, causing the engine to completely shut down. Your steering and braking effort increases in this situation.

When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

## When Fail-Safe Mode Is Activated



**WARNING:** Fail-safe mode is for use during emergencies only. Operate your vehicle in fail-safe mode only as long as necessary to bring your vehicle to rest in a safe location and seek immediate repairs. When in fail-safe mode, your vehicle will have limited power, will not be able to maintain high-speed operation, and may completely shut down without warning, potentially losing engine power, power steering assist, and power brake assist, which may increase the possibility of a crash resulting in serious injury.

# Maintenance



**WARNING:** Do not remove the coolant reservoir cap when the engine is on or the cooling system is hot. Wait 10 minutes for the cooling system to cool down. Cover the coolant reservoir cap with a thick cloth to prevent the possibility of scalding and slowly remove the cap. Failure to follow this instruction could result in personal injury.

Your vehicle has limited engine power when in the fail-safe mode, drive your vehicle with caution. Your vehicle does not maintain high-speed operation and the engine may operate poorly.

Remember that the engine is capable of automatically shutting down to prevent engine damage. In this situation:

1. Pull off the road as soon as safely possible and switch the engine off.
2. If you are a member of a roadside assistance program, we recommend that you contact your roadside assistance service provider.
3. If this is not possible, wait for a short period of time for the engine to cool.
4. Check the coolant level. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
5. When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

**Note:** *Driving your vehicle without repair increases the chance of engine damage.*

## Engine Coolant Temperature Management (If Equipped)



**WARNING:** To reduce the risk of crash and injury, be prepared that the vehicle speed may reduce and the vehicle may not be able to accelerate with full power until the coolant temperature reduces.

If you tow a trailer with your vehicle, the engine may temporarily reach a higher temperature during severe operating conditions, for example ascending a long or steep grade in high ambient temperatures.

At this time, you may notice the coolant temperature gauge moves toward the red zone and a message may appear in the information display.

You may notice a reduction in vehicle speed caused by reduced engine power in order to manage the engine coolant temperature. Your vehicle may enter this mode if certain high-temperature and high-load conditions take place. The amount of speed reduction depends on vehicle loading, grade and ambient temperature. If this occurs, there is no need to stop your vehicle. You can continue to drive.

The air conditioning may automatically turn on and off during severe operating conditions to protect the engine from overheating. When the coolant temperature decreases to the normal operating temperature, the air conditioning turns on.

If the coolant temperature gauge moves fully into the red zone, or if the coolant temperature warning or service engine soon messages appear in your information display, do the following:



# Maintenance

1. Stop your vehicle as soon as it is safe to do so. Fully apply the parking brake, shift into park (P) or neutral (N).
2. Leave the engine running until the coolant temperature gauge needle returns to the normal position. If the temperature does not drop after several minutes, follow the remaining steps.
3. Switch the engine off and wait for it to cool. Check the coolant level.
4. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
5. If the coolant level is normal, restart the engine and continue.

## AUTOMATIC TRANSMISSION FLUID CHECK

If required, have an authorized dealer check and change the transmission fluid at the correct service interval. See **Scheduled Maintenance** (page 326).

The automatic transmission does not have a transmission fluid dipstick.

Refer to your scheduled maintenance information for scheduled intervals for fluid checks and changes. Your transmission does not consume fluid. However, if the transmission slips, shifts slowly or if you notice a sign of leaking fluid, contact an authorized dealer.

Do not use supplemental transmission fluid additives, treatments or cleaning agents. The use of these materials may affect transmission operation and result in damage to internal transmission components.

## BRAKE FLUID CHECK



**WARNING:** Do not use any fluid other than the recommended brake fluid as this will reduce brake efficiency. Use of incorrect fluid could result in the loss of vehicle control, serious personal injury or death.



**WARNING:** Only use brake fluid from a sealed container. Contamination with dirt, water, petroleum products or other materials may result in brake system damage or failure. Failure to adhere to this warning could result in the loss of vehicle control, serious personal injury or death.



**WARNING:** Do not allow the fluid to touch your skin or eyes. If this happens, rinse the affected areas immediately with plenty of water and contact your physician.



**WARNING:** The brake system could be affected if the brake fluid level is below the **MIN** mark or above the **MAX** mark on the brake fluid reservoir.

# Maintenance



1. Park your vehicle on a level surface.
2. Look at the brake fluid reservoir to see where the brake fluid level is relative to the **MIN** and the **MAX** marks on the reservoir.

**Note:** If the brake fluid level is between the **MIN** and the **MAX** marks on the reservoir, it is acceptable.

**Note:** If the brake fluid level is below the **MIN** mark or above the **MAX** mark, have your vehicle checked as soon as possible.

**Note:** To avoid fluid contamination, the reservoir cap must remain in place and fully tight, unless you are adding fluid.

Only use fluid that meets our specifications. See **Capacities and Specifications** (page 275).

## Brake Fluid Service Interval


Brake fluid absorbs water over time which degrades the effectiveness of the brake fluid. Change the brake fluid at the specified intervals to prevent degraded braking performance.


For detailed interval information, see Scheduled Maintenance in your Owner's Manual or your local maintenance guide.


## POWER STEERING FLUID CHECK

Your vehicle is equipped with an electric power steering (EPS) system. There is no fluid reservoir to check or fill.

## CHANGING THE 12V BATTERY

 **WARNING:** Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.

 **WARNING:** When lifting a plastic-cased battery, excessive pressure on the end walls could cause acid to flow through the vent caps, resulting in personal injury and damage to the vehicle or battery. Lift the battery with a battery carrier or with your hands on opposite corners.

 **WARNING:** Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

# Maintenance



**WARNING:** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash your hands after handling.**



**WARNING:** This vehicle may have more than one battery. Removing the battery cables from only one battery does not disconnect your vehicle electrical system. Make sure you disconnect the battery cables from all batteries when disconnecting power. Failure to do so may cause serious personal injury or property damage.



**WARNING:** For vehicles with Auto-Start-Stop the battery requirement is different. You must replace the battery with one of exactly the same specification.

The battery is in the engine compartment. See **Under Hood Overview** (page 220).

Your vehicle has a maintenance-free battery. It does not require additional water during service.

If the vehicle battery has a cover and vent hose, make sure you correctly install it after cleaning or replacing the battery.

For longer, trouble-free operation, keep the top of the battery clean and dry and the battery cables tightly fastened to the battery terminals. If any corrosion is present on the battery or terminals, remove the cables from the terminals and clean with a wire brush. You can neutralize the acid with a solution of baking soda and water.

We recommend that you disconnect the negative battery cable terminal from the battery if you plan to store your vehicle for an extended period.

**Note:** If you only disconnect the negative battery cable terminal, make sure it is isolated or placed away from the battery terminal to avoid unintended connection or arcing.

If you replace the battery make sure it matches the electrical requirements of your vehicle.

If you disconnect or replace the battery and your vehicle has an automatic transmission, it must relearn its adaptive strategy. Because of this, the transmission may shift firmly when first driven. This is normal operation while the transmission fully updates its operation to optimum shift feel.

## **Battery Management System (if Equipped)**

The battery management system monitors battery conditions and takes actions to extend battery life. If excessive battery drain is detected, the system temporarily disables some electrical systems to protect the battery.

Systems included are:

- Heated rear window.
- Heated seats.
- Climate control.
- Heated steering wheel.
- Audio unit.
- Navigation system.

A message may appear in the information displays to alert you that battery protection actions are active. These messages are only for notification that an action is taking place, and not intended to indicate an electrical problem or that the battery requires replacement.

# Maintenance

After battery replacement, or in some cases after charging the battery with an external charger, the battery management system requires eight hours of vehicle sleep time to relearn the battery state of charge. During this time your vehicle must remain fully locked with the ignition switched off.

**Note:** *Prior to relearning the battery state of charge, the battery management system may temporarily disable some electrical systems.*

## Electrical Accessory Installation

To make sure the battery management system works correctly, do not connect an electrical device ground connection directly to the battery negative post. This can cause inaccurate measurements of the battery condition and potential incorrect system operation.

**Note:** *If you add electrical accessories or components to the vehicle, it may adversely affect battery performance and durability. This may also affect the performance of other electrical systems in the vehicle.*

## Remove and Reinstall the Battery

To disconnect or remove the battery, do the following:

1. Apply the parking brake and switch the ignition off.
2. Switch all electrical equipment off, for example lights and radio.
3. Wait a minimum of two minutes before disconnecting the battery.

**Note:** *The engine management system has a power hold function and remains powered for a period of time after you switch the ignition off. This is to allow diagnostic and adaptive tables to be stored. Disconnecting the battery without waiting can cause damage not covered by the vehicle Warranty.*

4. Disconnect the negative battery cable terminal.
5. Disconnect the positive battery cable terminal.
6. Remove the battery securing clamp.
7. Remove the battery.
8. To install, reverse the removal procedure.

**Note:** *Before reconnecting the battery, make sure the ignition remains switched off.*

**Note:** *Make sure the battery cable terminals are fully tightened.*

If you disconnect or replace the vehicle battery, you must reset the following features:

- Window bounce-back. See **Power Windows** (page 74).
- Clock Settings.
- Pre-set radio stations.

## Battery Disposal



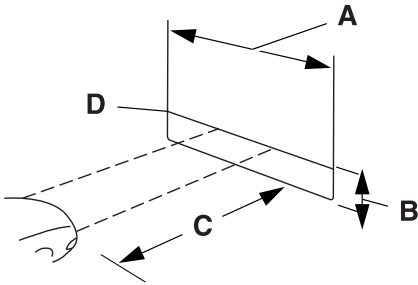
Make sure that you dispose of old batteries in an environmentally friendly way. Seek advice from your local authority about recycling old batteries.

## ADJUSTING THE HEADLAMPS

### Vertical Aim Adjustment

If your vehicle has been involved in a crash, have the aim of the headlamp beam checked by an authorized dealer.

# Maintenance



- A 8 ft (2.4 m)
- B Ground to the center of the headlamp high beam bulb
- C 25 ft (7.6 m)
- D Horizontal reference line



4. On the wall or screen you will observe a flat zone of high intensity light located at the top of the beam pattern. If the top edge of the flat zone of high intensity light is not on the horizontal reference line, adjust the aim of the headlamp beam.

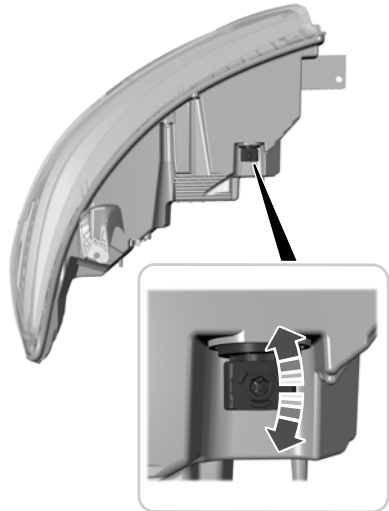
## Vertical Aim Adjustment Procedure

1. Park your vehicle on level ground approximately 25 ft (7.6 m) from a wall or screen.
2. Measure the distance from the ground to the center of the headlamp beam bulb and mark an 8 ft (2.4 m) long horizontal reference line on the wall or screen at this height.

**Note:** There may be an identifying mark on the lens to help you locate the center line of the headlamp beam bulb.

**Note:** To see a clearer light pattern for adjusting, you may want to block the light from one headlamp while adjusting the other.

3. Switch on the low beam headlamps and open the hood.



E292172

# Maintenance

5. Use a suitable tool, for example a screwdriver or socket wrench, to turn the adjuster clockwise or counterclockwise to adjust the vertical aim of the headlamp. The horizontal edge of the brighter light should touch the horizontal reference line.
6. Close the hood and switch off the lamps.

## WASHER FLUID CHECK



**WARNING:** If you operate your vehicle in temperatures below 41.0°F (5°C), use washer fluid with antifreeze protection. Failure to use washer fluid with antifreeze protection in cold weather could result in impaired windshield vision and increase the risk of injury or accident.

**Note:** *The front and rear washer systems are supplied from the same reservoir.*

Add fluid to fill the reservoir if the level is low. Only use a washer fluid that meets our specifications. See **Capacities and Specifications** (page 279).

State or local regulations on volatile organic compounds may restrict the use of methanol, a common windshield washer antifreeze additive. Washer fluids containing non-methanol antifreeze agents should be used only if they provide cold weather protection without damaging the vehicle's paint finish, wiper blades or washer system.

## FUEL FILTER

Your vehicle is equipped with a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.

## CHECKING THE WIPER BLADES



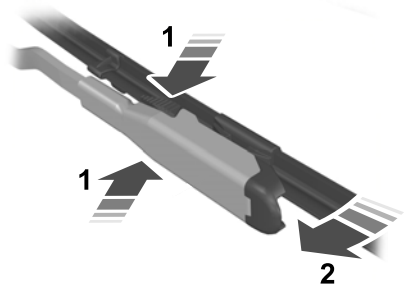
Run the tip of your fingers over the edge of the blade to check for roughness.

Clean the wiper blades with washer fluid or water applied with a soft sponge or cloth.

## CHANGING THE FRONT WIPER BLADES

You can improve poor wiper quality by cleaning the wiper blades and the windshield.

Replace the wiper blades at least annually for optimum performance.



1. Lift the wiper arm and then press the wiper blade locking buttons together.

**Note:** *Do not hold the wiper blade to lift the wiper arm.*

# Maintenance

**Note:** Make sure that the wiper arm does not spring back against the glass when the wiper blade is not attached.

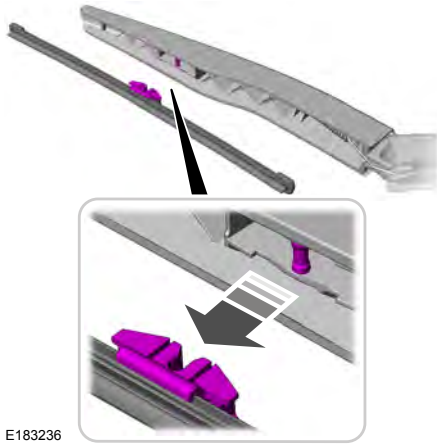
2. Slightly rotate the wiper blade.
3. Remove the wiper blade.
4. To install, reverse the removal procedure.

**Note:** Make sure that the wiper blade locks into place.

## CHANGING THE REAR WIPER BLADES

You can improve poor wiper quality by cleaning the wiper blades and the windshield.

Replace the wiper blades at least annually for optimum performance.



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1. Lift the wiper arm.

**Note:** Do not hold the wiper blade to lift the wiper arm.


2. Remove the wiper blade.


**Note:** Make sure that the wiper arm does not spring back against the glass when the wiper blade is not attached.

3. To install, reverse the removal procedure.

**Note:** Make sure that the wiper blade locks into place.

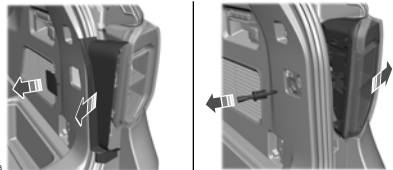
## CHANGING A BULB

 **WARNING:** Switch the lamps and the ignition off. Failure to do so could result in serious personal injury.

 **WARNING:** Bulbs can become hot. Let the bulb cool down before removing it. Failure to do so could result in personal injury.

Use the correct specification bulb. See **Bulb Specification Chart** (page 301). Install in the reverse order unless otherwise stated.

## Rear Direction Indicator and Reversing Lamp

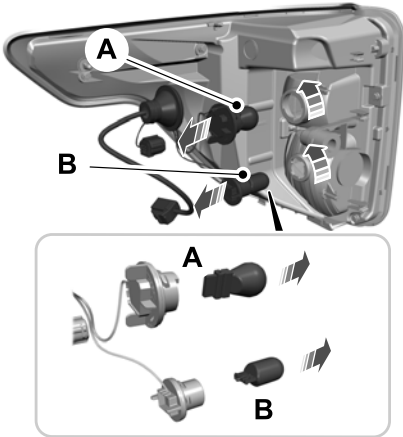


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1. Switch all of the lamps and the ignition off.
2. Use a suitable tool, for example a screwdriver, to carefully remove the access cover.
3. Remove the side cover.
4. Remove the screw that secures the lamp assembly.

# Maintenance

5. Gently pull the lamp assembly away from the vehicle.
6. Turn the bulb holder counterclockwise and remove it.
7. Remove the bulb by pulling it straight out.



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- A Rear direction indicator.  
B Reverse lamp.

## LED Lamps

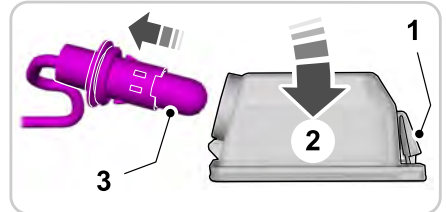
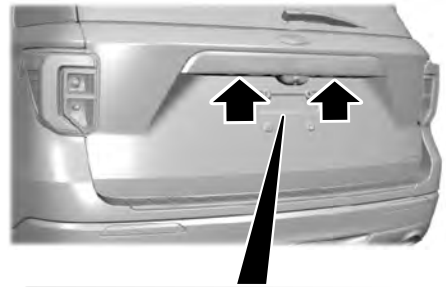
LED lamps are not serviceable items. See an authorized dealer if they fail.

The following lamps are LED:

- Headlamp low beam.
- Headlamp high beam.
- Front direction indicator.
- Side direction indicator.
- Daytime running lamps.
- Front fog lamps (if equipped).
- Brake and rear lamp.
- Rear side marker lamp.

- Rear fog lamps (if equipped).
- Front side marker lamps.
- Front signature lamps.
- Central high mounted brake lamp.

## License Plate Lamp



1. Use a suitable tool, for example a screwdriver, to carefully remove the lamp.
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.



# Vehicle Care

## GENERAL INFORMATION

Your dealer has many quality products available to clean your vehicle and protect its finishes.

## CLEANING PRODUCTS

### Materials

For best results, use the following products or products of equivalent quality:

For additional information and assistance, we recommend that you contact an authorized dealer.

Name	Specification
Motorcraft® Bug and Tar Remover, ZC-42 (U.S. & Canada)	
Motorcraft® Custom Bright Metal Cleaner, ZC-15 (U.S. & Canada)	ESR-M5B194-B
Motorcraft® Detail Wash, ZC-3-A (U.S. & Canada)	ESR-M14P4-A
Motorcraft® Engine Shampoo and Degreaser, ZC-20 (U.S.)	ESR-M14P3-A
Motorcraft® Engine Shampoo, CXC-66-A (Canada)	
Motorcraft® Premium Leather and Vinyl Cleaner, ZC-56 (U.S. & Canada)	
Motorcraft® Multi-Purpose Cleaner, CXC-101 (Canada)	
Motorcraft® Premium Windshield Wash Concentrate with Bitterant, ZC-32-B2 (U.S.)	WSS-M14P19-A
Motorcraft® Premium Quality Windshield Washer Fluid, CXC-37-A/B/D/F (Canada)	WSS-M14P19-A
Motorcraft® Professional Strength Carpet & Upholstery Cleaner, ZC-54 (U.S. & Canada)	
Motorcraft® Premium Glass Cleaner, CXC-100 (Canada)	ESR-M14P5-A
Motorcraft® Spot and Stain Remover, ZC-14 (U.S.)	
Motorcraft® Ultra-Clear Spray Glass Cleaner, ZC-23 (U.S.)	ESR-M14P5-A
Motorcraft® Wheel and Tire Cleaner, ZC-37-A (U.S. & Canada)	

# Vehicle Care

## CLEANING THE EXTERIOR

Wash your vehicle regularly with cool or lukewarm water and a neutral pH shampoo, we recommend Motorcraft Detail Wash.

- Never use strong household detergents or soap, for example dish washing or laundry liquid. These products can discolor and spot painted surfaces.
- Never wash your vehicle when it is hot to the touch, or during strong or direct sunlight.
- Dry your vehicle with a chamois or soft terry cloth towel to eliminate water spotting.
- Immediately remove fuel spillages, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time. We recommend Motorcraft Bug and Tar Remover.
- Remove any exterior accessories, for example antennas, before entering a car wash.
- When filling with AdBlue®, remove any residue on painted surfaces immediately.

**Note:** *Suntan lotions and insect repellents can damage painted surfaces. If these substances come in contact with your vehicle, wash the affected area as soon as possible.*

## Cleaning the Exterior Precautions

Immediately remove fuel spillages, AdBlue residuals, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time.

Remove any exterior accessories, for example antennas, before entering a car wash.

## Cleaning the Exterior Lamps

**Note:** *Do not scrape the exterior lamps lenses or use abrasives, alcoholic solvents or chemical solvents to clean them.*

**Note:** *Do not wipe the exterior lamps when they are dry.*

## Exterior Chrome Parts

- Apply a high quality-cleaning product to bumpers and other chrome parts. Follow the manufacturer's instructions. We recommend Motorcraft Custom Bright Metal Cleaner.
- Do not apply the cleaning product to hot surfaces. Do not leave the cleaning product on chrome surfaces longer than the time recommended.
- Using non-recommended cleaners can result in severe and permanent cosmetic damage.

**Note:** *Never use abrasive materials, for example steel wool or plastic pads as they can scratch the chrome surface.*

**Note:** *Do not use chrome cleaner, metal cleaner or polish on wheels or wheel covers.*

## Exterior Plastic Parts

For routine cleaning we recommend Motorcraft Detail Wash. If tar or grease spots are present, we recommend Motorcraft Bug and Tar Remover.

## Stripes or Graphics (If Equipped)

Hand washing your vehicle is preferred however, pressure washing may be used under the following conditions:

- Do not use water pressure higher than 2,000 psi (14,000 kPa).
- Do not use water hotter than 179°F (82°C).

# Vehicle Care

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- Use a spray with a 40 degree wide spray angle pattern.
- Keep the nozzle at a 12 in (305 mm) distance and 90 degree angle to your vehicle's surface.

**Note:** *Holding the pressure washer nozzle at an angle to the vehicle's surface may damage graphics and cause the edges to peel away from the vehicle's surface.*

## Underbody

Regularly clean the underside of your vehicle using water. Keep body and door drain holes free of debris or foreign material.

## Under Hood

For removing black rubber marks from under the hood we recommend Motorcraft Wheel and Tire Cleaner or Motorcraft Bug and Tar Remover.

## WAXING

Regular waxing is necessary to protect your car's paint from the elements. We recommend that you wash and wax the painted surface once or twice a year.

When washing and waxing, park your vehicle in a shaded area out of direct sunlight. Always wash your vehicle before applying wax.

- Use a quality wax that does not contain abrasives.
- Follow the manufacturer's instructions to apply and remove the wax.
- Apply a small amount of wax in a back-and-forth motion, not in circles.

- Do not allow wax to come in contact with any non-body (low-gloss black) colored trim. The wax will discolor or stain the parts over time.
  - Roof racks.
  - Bumpers.
  - Grained door handles.
  - Side moldings.
  - Mirror housings.
  - Windshield cowl area.
- Do not apply wax to glass areas.
- After waxing, your car's paint should feel smooth, and be free of streaks and smudges.

## CLEANING THE ENGINE

Engines are more efficient when they are clean because grease and dirt buildup keep the engine warmer than normal.

When washing:

- Take care when using a power washer to clean the engine. The high-pressure fluid could penetrate the sealed parts and cause damage.
- Do not spray a hot engine with cold water to avoid cracking the engine block or other engine components.
- Spray Motorcraft Engine Shampoo and Degreaser on all parts that require cleaning and pressure rinse clean. In Canada, use Motorcraft Engine Shampoo.

**Note:** *If your vehicle has an engine cover remove the cover before application of Motorcraft Engine Shampoo and Degreaser. Immediately rinse away any over spray.*

# Vehicle Care

- Never wash or rinse the engine while it is hot or running; water in the running engine may cause internal damage.
- Never wash or rinse any ignition coil, spark plug wire or spark plug well, or the area in and around these locations.
- Cover the battery, power distribution box, and air filter assembly to prevent water damage when cleaning the engine.

## CLEANING THE WINDOWS AND WIPER BLADES

Car wash chemicals and environmental fallout can result in windshield and wiper blade contamination. Dirty windshield and wipers will result in poor windshield wiper operation. Keep the windshield and wiper blades clean to maintain windshield wiper performance.

To clean the windshield and wiper blades:

- Clean the windshield with a non-abrasive glass cleaner. When cleaning the interior of the windshield, avoid getting any glass cleaner on the instrument panel or door panels. Wipe any glass cleaner off these surfaces immediately.
- For windshields contaminated with tree sap, chemicals, wax or bugs, clean the entire windshield using steel wool (no greater than 0000 grade) in a circular motion and rinse with water.
- Clean the wiper blades with isopropyl rubbing alcohol or windshield washer concentrate.

**Note:** *Do not use razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. The vehicle warranty does not cover damage caused to the heated rear window grid lines.*

## CLEANING THE INTERIOR



**WARNING:** Do not use cleaning solvents, bleach or dye on the vehicle's seatbelts, as these actions may weaken the belt webbing.



**WARNING:** On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

For fabric, carpets, cloth seats and seats equipped with side airbags:

- Remove dust and loose dirt with a vacuum cleaner.
- Remove light stains and soil with Motorcraft Professional Strength Carpet & Upholstery Cleaner.
- If grease or tar is present on the material, spot-clean the area first with Motorcraft Spot and Stain Remover. In Canada, use Motorcraft Multi-Purpose Cleaner.
- If a ring forms on the fabric after spot cleaning, clean the entire area immediately (but do not oversaturate) or the ring will set.
- Do not use household cleaning products or glass cleaners, which can stain and discolor the fabric and affect the flame retardant abilities of the seat materials.

## Mirrors

Do not clean the housing or glass of any mirror with harsh abrasives, fuel or other petroleum or ammonia-based cleaning products.

# Vehicle Care

## CLEANING THE INSTRUMENT PANEL AND INSTRUMENT CLUSTER LENS



**WARNING:** Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the airbag system.

**Note:** Follow the same procedure as cleaning leather seats for cleaning leather instrument panels and leather interior trim surfaces.

Clean the instrument panel and cluster lens with a clean, damp and soft cloth, then use a clean, dry and soft cloth to dry these areas.

- Avoid cleaners or polishes that increase the gloss of the upper portion of the instrument panel. The dull finish in this area helps protect you from undesirable windshield reflection.
- Do not use any household cleaning products or glass cleaners as these may damage the finish of the instrument panel, interior trim and cluster lens.
- Wash or wipe your hands clean if you have been in contact with certain products such as insect repellent and suntan lotion to avoid possible damage to the interior painted surfaces.
- Do not allow air fresheners and hand sanitizers to spill onto interior surfaces. If a spill occurs, wipe off immediately. Your warranty may not cover these damages.

If a staining liquid like coffee or juice has been spilled on the instrument panel or on interior trim surfaces:

1. Wipe up spilled liquid using a clean, soft cloth as quickly as possible.
2. Use Motorcraft Premium Leather and Vinyl Cleaner or a commercially available leather cleaning product for automotive interiors. Test any cleaner or stain remover on an inconspicuous area.
3. Alternatively, wipe the surface with a clean, soft cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
4. If necessary, apply more soap and water solution or cleaning product to a clean, soft cloth and press it onto the soiled area. Allow this to set at room temperature for 30 minutes.
5. Remove the soaked cloth, then with a clean, damp cloth, use a rubbing motion for 60 seconds on the soiled area.
6. Dry the area with a clean, soft cloth.

## REPAIRING MINOR PAINT DAMAGE

Authorized dealers have touch-up paint to match your vehicle's color. Your vehicle color code is printed on a sticker on the front, left-hand side door jamb. Take your color code to your authorized dealer to make sure you get the correct color.

Before repairing minor paint damage, use a cleaner to remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout.

Read the instructions before using cleaning products.

## CLEANING THE WHEELS

1. Regularly clean them with a wheel cleaner. We recommend that you use Ford approved wheel cleaner if available.

# Vehicle Care

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2. Remove dirt and brake dust with a sponge.
3. Remove tar and grease with a bug and tar remover. We recommend that you use Ford approved bug and tar remover if available.
4. Thoroughly rinse the wheels with water after cleaning.

If you intend on parking your vehicle for an extended period after cleaning the wheels with a wheel cleaner, drive your vehicle for a few minutes before doing so. This reduces the risk of corrosion of the brake discs, brake pads and linings.

Do not clean the wheels when they are hot.

**Note:** *Some car washes could damage wheel rims and covers.*

**Note:** *Using non-recommended cleaners, harsh cleaning products, chrome wheel cleaners or abrasive materials could damage wheel rims and covers.*

## VEHICLE STORAGE

If you plan on storing your vehicle for 30 days or more, read the following maintenance recommendations to make sure your vehicle stays in good operating condition.

We engineer and test all motor vehicles and their components for reliable, regular driving. Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve engine components.

## General

- Store all vehicles in a dry, ventilated place.
- Protect from sunlight, if possible.
- If vehicles are stored outside, they require regular maintenance to protect against rust and damage.

## Body

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear-wheel housing and the underside of front fenders.
- Periodically wash your vehicle if it is stored in exposed locations.
- Touch-up exposed or primed metal to prevent rust.
- Cover chrome and stainless steel parts with a thick coat of auto wax to prevent discoloration. Re-wax as necessary when you wash your vehicle.
- Lubricate all hood, door and luggage compartment hinges and latches with a light grade oil.
- Cover interior trim to prevent fading.
- Keep all rubber parts free from oil and solvents.

## Engine

- Change the engine oil and filter prior to storage because used engine oil contains contaminants which may cause engine damage.
- Start the engine every 15 days for a minimum of 15 minutes. Run at fast idle with the climate controls set to defrost until the engine reaches normal operating temperature.

# Vehicle Care

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- With your foot on the brake, shift through all the gears while the engine is running.
- We recommend that you change the engine oil before you use your vehicle again.

## Fuel system

- Fill the fuel tank with high-quality fuel until the first automatic shutoff of the fuel pump nozzle.

## Cooling system

- Protect against freezing temperatures.
- When removing your vehicle from storage, check coolant fluid level. Confirm that there are no cooling system leaks and that fluid is at the recommended level.

## Disconnecting Your 12 Volt Battery

- Check and recharge as necessary. Keep connections clean.
- If storing your vehicle for more than 30 days without recharging the battery, we recommend that you disconnect the battery cables to maintain battery charge for quick starting.

**Note:** *It is necessary to reset memory features if you disconnect the battery cables.*

## Plugging in Your HYBRID

We recommend the following options for your plug-in vehicle (PHEV) :

- Leave your vehicle plugged in. The 12 volt battery maintains power if left plugged in. However, this periodically uses electricity from the household outlet.
- Connect a battery charger to your 12 volt battery and leave it on a continuous, slow charge.
- Disconnect the 12 volt battery. If your 12 volt battery is located in the luggage compartment, do not fully shut the luggage compartment after disconnecting the 12 volt battery. Only leave the luggage compartment open if your vehicle is stored in a locked location.

## Brakes

- Make sure the brakes and parking brake release fully.

## Tires

- Maintain recommended air pressure.

## Miscellaneous

- Make sure all linkages, cables, levers and pins under your vehicle are covered with grease to prevent rust.
- Move vehicles at least 25 ft (7.5 m) every 15 days to lubricate working parts and prevent corrosion.

## Removing Vehicle From Storage

When your vehicle is ready to come out of storage, do the following:

- Wash your vehicle to remove any dirt or grease film build-up on window surfaces.
- Check windshield wipers for any deterioration.

# Vehicle Care

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- Check under the hood for any foreign material that may have collected during storage such as mice or squirrel nests.
- Check the exhaust for any foreign material that may have collected during storage.
- Check tire pressures and set tire inflation per the Tire Label.
- Check brake pedal operation. Drive your vehicle 15 ft (4.5 m) back and forth to remove rust build-up.
- Check fluid levels (including coolant, oil and gas) to make sure there are no leaks, and fluids are at recommended levels.
- If you remove the battery, clean the battery cable ends and check for damage.

Contact an authorized dealer if you have any concerns or issues.



# Wheels and Tires

## GENERAL INFORMATION

Use only approved wheel and tire sizes, using other sizes could damage your vehicle. If you change the diameter of the tires from that fitted at the factory, the speedometer may not display the correct speed, and the All Wheel Drive (AWD) system may not function properly. Take your vehicle to an authorized dealer to have the system reprogrammed. If you intend to change the size of the wheels from that fitted by the manufacturer, you can check the suitability with an authorized dealer.

Additional information related to the functionality and maintenance of your tires can be found later in this chapter. See **Tire Care** (page 247).

The recommended tire inflation pressures can be found on the Tire Label, which is located on the B-pillar or the edge of the driver's door. This information can also be found on the Safety Compliance Certification Label, affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door latch post; next to the driver's seating position.

We strongly recommend maintaining these tire pressures at all times. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns, reduced fuel economy, and adversely affect the way your vehicle handles.

**Note:** *Check and set the tire pressure at the ambient temperature in which you are intending to drive your vehicle and when the tires are cold.*

**Note:** *Check your tire pressures at least once per month.*

Set the pressure for your spare tire to the highest value given for your vehicle and tire size combination, if equipped.

## Notice to utility vehicle and truck owners



**WARNING:** Utility vehicles have a significantly higher rollover rate than other types of vehicles.



**WARNING:** Vehicles with a higher center of gravity (utility and four-wheel drive vehicles) handle differently than vehicles with a lower center of gravity (passenger cars). Avoid sharp turns, excessive speed and abrupt steering in these vehicles. Failure to drive cautiously increases the risk of losing control of your vehicle, vehicle rollover, personal injury and death.



**WARNING:** In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seatbelt.



**WARNING:** Do not become overconfident in the ability of four-wheel drive vehicles. Although a four-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in low traction situations, it won't stop any faster than two-wheel drive vehicles. Always drive at a safe speed.

Utility vehicles and trucks handle differently than passenger cars in the various driving conditions that are encountered on streets, highways and off-road. Utility vehicles and trucks are not designed for cornering at speeds as high as passenger cars any more than low-slung sports cars are designed to perform satisfactorily under off-road conditions.

# Wheels and Tires

Study your owner's manual and any supplements for specific information about equipment features, instructions for safe driving and additional precautions to reduce the risk of an accident or serious injury.

## How your vehicle differs from other vehicles

Sport utility vehicles and trucks can differ from some other vehicles in a few noticeable ways. Your vehicle may be:

- Higher - to allow higher load carrying capacity and to allow it to travel over rough terrain without getting hung up or damaging underbody components.
- Shorter - to give it the capability to approach inclines and drive over the crest of a hill without getting hung up or damaging underbody components. All other things held equal, a shorter wheelbase may make your vehicle quicker to respond to steering inputs than a vehicle with a longer wheelbase.
- Narrower - to provide greater maneuverability in tight spaces, particularly in off-road use.

As a result of the above dimensional differences, Sport utility vehicles and trucks often have a higher center of gravity and a greater difference in center of gravity between the loaded and unloaded condition. These differences that make your vehicle so versatile also make it handle differently than an ordinary passenger car.

## TIRE CARE

### Information About Uniform Tire Quality Grading



Tire Quality Grades apply to new pneumatic passenger car tires. The Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example: **Treadwear 200 Traction AA Temperature A.**

These Tire Quality Grades are determined by standards that the United States Department of Transportation has set.

Tire Quality Grades apply to new pneumatic passenger car tires. They do not apply to deep tread, winter-type snow tires, space-saver or temporary use spare tires, light truck or LT type tires, tires with nominal rim diameters of 10 to 12 inches or limited production tires as defined in Title 49 Code of Federal Regulations Part 575.104 (c)(2).

# Wheels and Tires

## U.S. Department of Transportation Tire quality grades:

The U.S. Department of Transportation requires Ford Motor Company to give you the following information about tire grades exactly as the government has written it.

### Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear 1½ times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

### Traction AA A B C



**WARNING:** The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C could have poor traction performance.

### Temperature A B C



**WARNING:** The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the

# Wheels and Tires

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Federal Motor Vehicle Safety Standard No. 139. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

## Glossary of Tire Terminology

\***Tire label:** A label showing the original equipment tire sizes, recommended inflation pressure and the maximum weight the vehicle can carry.

\***Tire Identification Number (TIN):** A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture. Also referred to as DOT code.

\***Inflation pressure:** A measure of the amount of air in a tire.

\***Standard load:** A class of P-metric or Metric tires designed to carry a maximum load at set pressure. For example: For P-metric tires 35 psi (2.4 bar) and for Metric tires 36 psi (2.5 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

\***Extra load:** A class of P-metric or Metric tires designed to carry a heavier maximum load at 42 psi (2.9 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

\***kPa:** Kilopascal, a metric unit of air pressure.

\***PSI:** Pounds per square inch, a standard unit of air pressure.

\***Cold tire pressure:** The tire pressure when the vehicle has been stationary and out of direct sunlight for an hour or more and prior to the vehicle being driven for 1 mi (1.6 km).

\***Recommended inflation pressure:** The cold inflation pressure found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label located on the B-Pillar or the edge of the driver door.

\***B-pillar:** The structural member at the side of the vehicle behind the front door.

\***Bead area of the tire:** Area of the tire next to the rim.

\***Sidewall of the tire:** Area between the bead area and the tread.

\***Tread area of the tire:** Area of the perimeter of the tire that contacts the road when mounted on the vehicle.

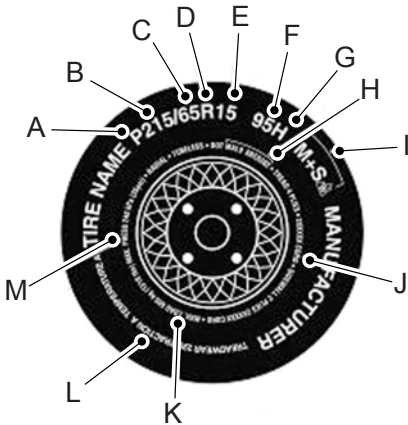
\***Rim:** The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.

# Wheels and Tires

## Information Contained on the Tire Sidewall

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

## Information on P Type Tires



P215/65R15 95H is an example of a tire size, load index and speed rating. The definitions of these items are listed below. (Note that the tire size, load index and speed rating for your vehicle could be different from this example.)

**A. P:** Indicates a tire, designated by the Tire and Rim Association, that could be used for service on cars, sport utility vehicles, minivans and light trucks. **Note:** If your tire size does not begin with a letter this could mean it is designated by either the European Tire and Rim Technical Organization or the Japan Tire Manufacturing Association.

**B. 215:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

**C. 65:** Indicates the aspect ratio which gives the tire's ratio of height to width.

**D. R:** Indicates a radial type tire.

**E. 15:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

**F. 95:** Indicates the tire's load index. It is an index that relates to how much weight a tire can carry. You could find this information in your owner's manual. If not, contact a local tire dealer.

**Note:** You may not find this information on all tires because it is not required by federal law.

## Wheels and Tires

**G. H:** Indicates the tire's speed rating. The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time under a standard condition of load and inflation pressure. The tires on your vehicle could operate at different conditions for load and inflation pressure. These speed ratings may need to be adjusted for the difference in conditions. The ratings range from 81 mph (130 km/h) to 186 mph (299 km/h). These ratings are listed in the following chart.

**Note:** *You may not find this information on all tires because it is not required by federal law.*

Letter rating	Speed rating
M	81 mph (130 km/h)
N	87 mph (140 km/h)
Q	99 mph (159 km/h)
R	106 mph (171 km/h)
S	112 mph (180 km/h)
T	118 mph (190 km/h)
U	124 mph (200 km/h)
H	130 mph (210 km/h)
V	149 mph (240 km/h)

Letter rating	Speed rating
W	168 mph (270 km/h)
Y	186 mph (299 km/h)

**Note:** *For tires with a maximum speed capability over 149 mph (240 km/h), tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph (299 km/h), tire manufacturers always use the letters ZR.*

**H. U.S. DOT Tire Identification Number (TIN):** This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.

**I. M+S or M/S:** Mud and Snow, or  
**AT:** All Terrain, or  
**AS:** All Season.

# Wheels and Tires

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**J. Tire Ply Composition and Material Used:** Indicates the number of plies or the number of layers of rubber-coated fabric in the tire tread and sidewall. Tire manufacturers also must indicate the ply materials in the tire and the sidewall, which include steel, nylon, polyester, and others.

**K. Maximum Load:** Indicates the maximum load in kilograms and pounds that can be carried by the tire. See the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), for the correct tire pressure for your vehicle.

## **L. Treadwear, Traction and Temperature Grades:**

**\*Treadwear** The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half times as well on the government test course as a tire graded 100.

**\*Traction:** The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C could have poor traction performance.

**\*Temperature:** The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel.

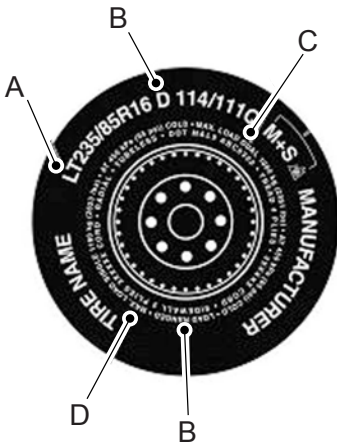
**M. Maximum Inflation Pressure:** Indicates the tire manufacturers' maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the vehicle manufacturer's recommended cold inflation pressure which can be found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label which is located on the B-Pillar or the edge of the driver's door. The cold inflation pressure should never be set lower than the recommended pressure on the vehicle label.

# Wheels and Tires

The tire suppliers could have additional markings, notes or warnings such as standard load or radial tubeless.

## Additional Information Contained on the Tire Sidewall for LT Type Tires

**Note:** *Tire Quality Grades do not apply to this type of tire.*



LT type tires have some additional information beyond those of P type tires; these differences are described below.

**A. LT:** Indicates a tire, designated by the Tire and Rim Association, that is intended for service on light trucks.

**B. Load Range and Load Inflation Limits:** Indicates the tire's load-carrying capabilities and its inflation limits.

**C. Maximum Load Dual lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a dual, defined as four tires on the rear axle (a total of six or more tires on the vehicle).

**D. Maximum Load Single lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a single, defined as two tires (total) on the rear axle.

## Information on T Type Tires

T145/80D16 is an example of a tire size.

**Note:** *The temporary tire size for your vehicle could be different from this example. Tire Quality Grades do not apply to this type of tire.*



# Wheels and Tires



T type tires have some additional information beyond those of P type tires; these differences are described below:

A. **T:** Indicates a type of tire, designated by the Tire and Rim Association, that is intended for temporary service on cars, sport utility vehicles, minivans and light trucks.

B. **145:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

C. **80:** Indicates the aspect ratio which gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall.

D. **D:** Indicates a diagonal type tire.

**R:** Indicates a radial type tire.

E. **16:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

## Recommended Tire Pressures and Inflating Your Tires

Safe operation of your vehicle requires that your tires are properly inflated. Remember that a tire can lose up to half of its air pressure without appearing flat. Every day before you drive, check your tires. If one looks lower than the others, use a tire gauge to check the pressure of all tires and adjust if required.

At least once a month and before long trips, inspect each tire and check the tire pressure with a tire gauge (including spare, if equipped). Inflate all tires to the inflation pressure recommended by Ford Motor Company.



**WARNING:** Under-inflation is the most common cause of tire failures and may result in severe tire cracking, tread separation or blowout, with unexpected loss of vehicle

# Wheels and Tires

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control and increased risk of injury. Under-inflation increases sidewall flexing and rolling resistance, resulting in heat buildup and internal damage to the tire. It also may result in unnecessary tire stress, irregular wear, loss of vehicle control and accidents. A tire can lose up to half of its air pressure and not appear to be flat!

You are strongly urged to buy a reliable tire pressure gauge, as automatic service station gauges could be inaccurate. Ford recommends the use of a digital or dial-type tire pressure gauge rather than a stick-type tire pressure gauge. Use the recommended cold inflation pressure for optimum tire performance and wear. Under-inflation or over-inflation could cause uneven treadwear patterns.

Always inflate your tires to the Ford recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. You will find a Tire Label containing the Ford recommended tire inflation pressure by the tire size and other important information located on the B-Pillar or the edge of the driver's door.

The Ford recommended tire inflation pressure is also found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch on the B-pillar, or on the edge of the driver's door.

Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

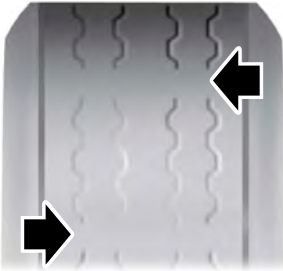
## **Inspecting Your Tires and Wheel Valve Stems**

Periodically inspect the tire treads for uneven or excessive wear and remove objects such as stones, nails or glass that could be wedged in the tread grooves. Check the tire and valve stems for holes, cracks, or cuts that could permit air leakage and repair or replace the tire and replace the valve stem. Inspect the tire sidewalls for cracking, cuts, bruises and other signs of damage or excessive wear. If internal damage to the tire is suspected, have the tire demounted and inspected in case it needs to be repaired or replaced. For your safety, tires that are damaged or show signs of excessive wear should not be used because they are more likely to blow out or fail.

# Wheels and Tires

Improper or inadequate vehicle maintenance can cause tires to wear abnormally. Inspect all your tires, including the spare, frequently, and replace them if one or more of the following conditions exist:

## Tire Wear



When the tread is worn down to one sixteenth of an inch (2 mm), tires must be replaced to help prevent your vehicle from skidding and hydroplaning. Built-in treadwear indicators, or wear bars, which look like narrow strips of smooth rubber across the tread will appear on the tire when the tread is worn down to one sixteenth of an inch (2 mm).

When the tire tread wears down to the same height as these wear bars, the tire is worn out and must be replaced.

## Damage

Periodically inspect the tire treads and sidewalls for damage (such as bulges in the tread or sidewalls, cracks in the tread groove and separation in the tread or sidewall). If damage is observed or suspected, have the tire inspected by a tire professional. Tires can be damaged during off-road use, so inspection after off-road use is also recommended.

## Age



**WARNING:** Tires degrade over time depending on many factors such as weather, storage conditions, and conditions of use (load, speed, inflation pressure) the tires experience throughout their lives.

In general, tires should be replaced after six years regardless of tread wear. However, heat caused by hot climates or frequent high loading conditions can accelerate the aging process and may require tires to be replaced more frequently.

You should replace your spare tire when you replace the road tires or after six years due to aging even if it has not been used.

# Wheels and Tires

## U.S. DOT Tire Identification Number

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.


## Tire Replacement Requirements


Your vehicle is equipped with tires designed to provide a safe ride and handling capability.





**WARNING:** Only use replacement tires and wheels that are the same size, load index, speed rating and type (such as P-metric versus LT-metric or all-season versus all-terrain) as those originally provided by Ford. The recommended tire and wheel size may be found on either the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or the Tire Label which is located on the B-Pillar or edge of the driver's door. If this information is not found on these labels, then you should contact your authorized dealer as soon as possible. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

# Wheels and Tires

 **WARNING:** To reduce the risk of serious injury, when mounting replacement tires and wheels, you should not exceed the maximum pressure indicated on the sidewall of the tire to set the beads without additional precautions listed below. If the beads do not seat at the maximum pressure indicated, re-lubricate and try again.

 **WARNING:** For a mounting pressure more than 20 psi (1.38 bar) greater than the maximum pressure, a Ford dealer or other tire service professional should do the mounting.

 **WARNING:** Always inflate steel carcass tires with a remote air fill with the person inflating standing at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.

 **WARNING:** When inflating the tire for mounting pressures up to 20 psi (1.38 bar) greater than the maximum pressure on the tire sidewall, the following precautions must be taken to protect the person mounting the tire:

- Make sure that you have the correct tire and wheel size.
- Lubricate the tire bead and wheel bead seat area again.

- Stand at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.
- Use both eye and ear protection.

**Important:** Remember to replace the wheel valve stems when the road tires are replaced on your vehicle.

It is recommended that the two front tires or two rear tires generally be replaced as a pair, if the worn tires still have usable tread depth. To avoid potential All Wheel Drive (AWD) malfunction or All Wheel Drive (AWD) system damage, it is recommended to replace all four tires rather than mixing significantly worn tires with new tires.

The tire pressure sensors mounted in the wheels (originally installed on your vehicle) are not designed to be used in aftermarket wheels.

The use of wheels or tires not recommended by Ford Motor Company could affect the operation of your tire pressure monitoring system.

If the tire pressure monitoring system indicator is flashing, your system is malfunctioning. Your replacement tire might be incompatible with your tire pressure monitoring system, or some component of the system could be damaged.

# Wheels and Tires

## Safety Practices



**WARNING:** If your vehicle is stuck in snow, mud or sand, do not rapidly spin the tires; spinning the tires can tear the tire and cause an explosion. A tire can explode in as little as three to five seconds.



**WARNING:** Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

## Driving habits have a great deal to do with your tire mileage and safety.

- \*Observe posted speed limits
- \*Avoid fast starts, stops and turns
- \*Avoid potholes and objects on the road
- \*Do not run over curbs or hit the tire against a curb when parking

## Highway Hazards

No matter how carefully you drive, there is always the possibility that you could eventually have a flat tire on the highway. Drive slowly to the closest safe area out of traffic. This could further damage the flat tire, but your safety is more important.

If you feel a sudden vibration or ride disturbance while driving, or you suspect your tire or vehicle has been damaged, immediately reduce your speed. Drive with caution until you can safely pull off the road. Stop and inspect the tires for damage. If a tire is under-inflated or damaged, deflate it, remove wheel and replace it with your spare tire and wheel. If you cannot detect a cause, have the vehicle towed to the nearest repair facility or tire dealer to have the vehicle inspected.

## Tire and Wheel Alignment

A bad jolt from hitting a curb or pothole can cause the front end of your vehicle to become misaligned or cause damage to your tires. If your vehicle seems to pull to one side when you are driving, the wheels could be out of alignment. Have an authorized dealer check the wheel alignment periodically.

Wheel misalignment in the front or the rear can cause uneven and rapid treadwear of your tires and should be corrected by an authorized dealer. Front-wheel drive vehicles and those with an independent rear suspension (if equipped) could require alignment of all four wheels.

The tires should also be balanced periodically. An unbalanced tire and wheel assembly could result in irregular tire wear.

# Wheels and Tires

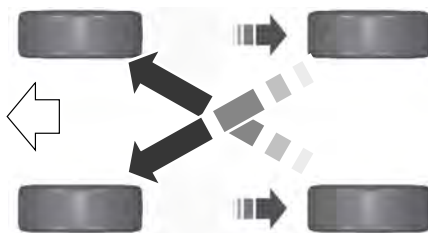
## Tire Rotation

**Note:** If your tires show uneven wear, ask an authorized dealer to check for and correct any wheel misalignment, tire imbalance or mechanical problem involved before tire rotation.

**Note:** Your vehicle could be equipped with a dissimilar spare wheel and tire assembly. A dissimilar spare wheel and tire assembly is defined as a spare wheel and tire assembly that is different in brand, size or appearance from the road tires and wheels. If you have a dissimilar spare wheel and tire assembly, it is intended for temporary use only and should not be used in a tire rotation.

**Note:** After having your tires rotated, inflation pressure must be checked and adjusted to the vehicle requirements.

Rotating your tires at the recommended interval (as indicated in the Scheduled Maintenance information) will help your tires wear more evenly, providing better tire performance and longer tire life. Sometimes irregular tire wear can be corrected by rotating the tires.



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## Police Wheels and Tires

### Wheel rims

To withstand the demands placed on vehicles driven under heavy duty service conditions, Ford Motor Company installs heavy duty wheels.

### Tires

Tires (including the spare) are speed-rated radials for police use. Use only the recommended tire size and speed ratings.

In regions with snow and ice during the winter months, installation of snow tires could be desirable. Snow tires will usually exhibit a drop in dry pavement handling, but could show an increase in snow and ice traction. When snow tires are used, they should be installed on all four wheels, never on the drive wheels only.

# Wheels and Tires

## Tire storage

Most high performance tires are made with a nylon overlay. As such, the following steps should be taken to avoid flatspotting when the vehicles are not used for a period of time.

- Fleets should store the vehicles with 44 psi (303 kPa) in the tires.
- If the vehicle is stored for periods longer than 30 days, you should move it several feet at least once during each 30-day period, so that a different portion of the tread contacts the ground.
- Tire pressure should be reduced to the recommended pressure shown on the vehicle certification label before the vehicle is placed back into service.

## USING SNOW CHAINS



**WARNING:** Do not exceed 30 mph (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.



**WARNING:** Snow tires must be the same size, load index and speed rating as those originally provided by Ford. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of control, vehicle rollover, personal injury and death. Additionally, the use of non-recommended tires and wheels can cause steering, suspension, axle, transfer case or power transfer unit failure. Follow the Ford recommended tire inflation pressure found on the Safety Compliance Certification Label (on the door hinge pillar, door latch post or the door edge that meets the door latch post, next to the driver seat), or Tire Label on the B-Pillar or the edge of the driver door. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

Only use snow chains on rear wheels. Install snow chains in pairs. Do not use self-tensioning snow chains.

Only use snow chains on the following specified tire sizes:

- 255/60R18
  - Only install chains that are 10 mm or less.
- 255/65R18
  - Only install chains that are 10 mm or less.



# Wheels and Tires

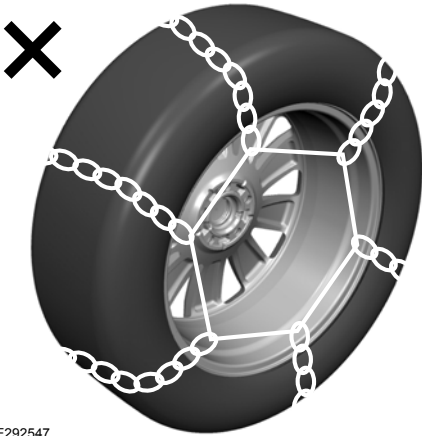
- 265/60R18
  - Only install chains that are 10 mm or less.
- 255/55R20
  - Only install chains that are 10 mm or less.

We recommend you use steel wheels of the same size and specification if snow chains are required because chains may chip aluminum wheels.

Follow these guidelines when using snow tires and traction devices:

- If possible, avoid fully loading your vehicle.
- Purchase snow chains from a manufacturer that clearly labels body to tire dimension restrictions.

- When driving with snow chains do not exceed 30 mph (50 km/h) or the maximum speed recommended by the chain manufacturer, whichever is less.
- Drive cautiously. If you hear the snow chains rub or bang against the vehicle, stop and tighten them. If this does not work, remove the snow chains to prevent vehicle damage.
- Remove the snow chains when they are no longer needed. Do not use snow chains on dry roads.
- If a temporary spare wheel is mounted on your vehicle, do not use snow chains on the axle with the temporary spare wheel.
- Use snow chains that fit against the sidewall of the tire to prevent the chains from touching the wheel rims or suspension, see following illustration.



E292547



If you have any questions regarding snow chains, please contact your authorized dealer.

# Wheels and Tires

## TIRE PRESSURE MONITORING SYSTEM



**WARNING:** The tire pressure monitoring system is not a substitute for manually checking tire pressures. You should periodically check tire pressures using a pressure gauge. Failure to correctly maintain tire pressures could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.

**Note:** *You should only use tire sealants in roadside emergencies as they could cause damage to the tire pressure monitoring system sensor.*

**Note:** *If the tire pressure monitoring system sensor becomes damaged, it will not function.*



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires).

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate

them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and could affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system will not be able to detect or signal low tire pressure as intended. TPMS malfunctions could occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

This device complies with Part 15 of the FCC Rules and with License exempt RSS Standards of Industry Canada. Operation is subject to the following two conditions:

1. This device will not cause harmful interference, and

# Wheels and Tires

- This device must accept any interference received, including interference that could cause undesired operation.

**Note:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

## Changing Tires With a Tire Pressure Monitoring System



**Note:** Each road tire is equipped with a tire pressure sensor located inside the wheel and tire assembly cavity. The pressure sensor is attached to the valve stem. The pressure sensor is covered by the tire and is not visible unless the tire is removed. Take care when changing the tire to avoid damaging the sensor.

You should always have your tires serviced by an authorized dealer.

Check the tire pressure periodically (at least monthly) using an accurate tire gauge. See **When Inflating Your Tires** in this chapter.

## Understanding Your Tire Pressure Monitoring System



The tire pressure monitoring system measures pressure in your road tires and sends the tire pressure readings to your vehicle. You can view the tire pressure readings through the information display. See **General Information** (page 84). The low tire pressure warning light will turn on if the tire pressure is significantly low. Once the light is illuminated, your tires are under-inflated and need to be inflated to the manufacturer's recommended tire pressure. Even if the light turns on and a short time later turns off, your tire pressure still needs to be checked.

## When Your Temporary Spare Tire is Installed

When one of your road tires needs to be replaced with the temporary spare, the system will continue to identify an issue to remind you that the damaged road wheel and tire assembly needs to be repaired and put back on your vehicle.

Some limited All Wheel Drive (AWD) traction may be provided if a temporary spare is installed on one of the front wheels. If you are in driving conditions where limited All Wheel Drive (AWD) traction is needed while a temporary is installed, it is recommended the temporary spare be installed on the front axle.

# Wheels and Tires

To restore the full function of the tire pressure monitoring system, have the damaged road wheel and tire assembly repaired and remounted on your vehicle.

## When You Believe Your System is Not Operating Properly

The main function of the tire pressure monitoring system is to warn you when your tires need air. It can also warn you in the event the system is no longer capable of functioning as intended. See the following chart for information concerning your tire pressure monitoring system:

Low tire pressure warning light	Possible cause	Customer action required
Solid warning light	Tire(s) under-inflated	Make sure tires are at the proper pressure. See <i>Inflating your tires</i> in this chapter. After inflating your tires to the manufacturer's recommended pressure as shown on the Tire Label (located on the edge of driver's door or the B-Pillar), the vehicle must be driven for at least two minutes over 20 mph (32 km/h) before the light turns off.
	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When Your Temporary Spare Tire is Installed</b> in this section.
	TPMS malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.

# Wheels and Tires

Low tire pressure warning light	Possible cause	Customer action required
	Tire rotation without sensor training	On vehicles with different front and rear tire pressures, the system must be retrained following every tire rotation. See <b>Tire Pressure Monitoring System Reset</b> procedure later in this section.
Flashing warning light	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When Your Temporary Spare Tire is Installed</b> in this section.
	TPMS malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.

## When Inflating Your Tires



**WARNING:** Do not use the tire pressure displayed in the information display as a tire pressure gauge. Failure to follow this instruction could result in personal injury or death.

When putting air into your tires (such as at a gas station or in your garage), the tire pressure monitoring system will not respond immediately to the air added to your tires.

It could take up to two minutes of driving over 20 mph (32 km/h) for the light to turn off after you have filled your tires to the recommended inflation pressure.

## How Temperature Affects Your Tire Pressure

The tire pressure monitoring system monitors tire pressure in each pneumatic tire. While driving in a normal manner, a typical passenger tire inflation pressure could increase about 2–4 psi (14–28 kPa) from a cold start situation. If the vehicle is stationary overnight with the outside temperature significantly lower than the daytime temperature, the tire pressure could decrease about 3 psi (21 kPa) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value could be detected by the tire pressure monitoring system as being significantly lower than the recommended inflation pressure and activate the system warning light for low tire pressure. If the low tire pressure warning light is on, visually check each tire to verify that no tire is flat. If one or more tires are flat, repair as necessary.

# Wheels and Tires

Check the air pressure in the road tires. If any tire is under-inflated, carefully drive the vehicle to the nearest location where air can be added to the tires. Inflate all the tires to the recommended inflation pressure.

## Tire Pressure Monitoring System Reset Procedure



**WARNING:** To determine the required pressure(s) for your vehicle, see the Safety Compliance Certification Label (on the door hinge pillar, door-latch post or the door edge that meets the door-latch post, next to the driver seat) or the Tire Label on the B-Pillar or the edge of the driver door.

**Note:** You need to perform the tire pressure monitoring system reset procedure after each tire rotation.

To provide the vehicle's load carrying capability, some vehicles require different recommended tire pressures in the front tires as compared to the rear tires. The tire pressure monitoring system equipped on these vehicles is designed to illuminate the low tire pressure warning light at two different pressures; one for the front tires and one for the rear tires.

Since tires need to be rotated to provide consistent performance and maximum tire life, the tire pressure monitoring system needs to know when the tires are rotated to determine which set of tires are on the front and which are on the rear. With this information, the system can detect and properly warn of low tire pressures.

System reset tips:

- To reduce the chances of interference from another vehicle, perform the system reset procedure at least 3 ft (1 m) away from another Ford Motor Company vehicle undergoing the system reset procedure at the same time.
- Do not wait more than two minutes between resetting each tire sensor or the system can time-out and you have to repeat the entire procedure on all four wheels.
- A double horn sounds indicating the need to repeat the procedure.

## Performing the System Reset Procedure

Read the entire procedure before attempting.

1. Drive the vehicle above 20 mph (32 km/h) for at least two minutes, then park in a safe location where you can easily get to all four tires and have access to an air pump.
2. Place the ignition in the off position and keep the key in the ignition.
3. Cycle the ignition to the on position with the engine off.
4. Turn the hazard flashers on then off three times. You must accomplish this within 10 seconds. If you successfully enter the reset mode, the horn sounds once, the system indicator flashes and a message shows in the information display. If this does not occur, please try again starting at step 2. If after repeated attempts to enter the reset mode, the horn does not sound, the system indicator does not flash and no message shows in the information display, seek service from your authorized dealer.

# Wheels and Tires

5. Train the tire pressure monitoring system sensors in the tires using the following system reset sequence starting with the left front tire in the following clockwise order: Left front - driver side front tire, Right front - passenger side front tire, Right rear - passenger side rear tire, Left rear - driver side rear tire.
6. Remove the valve cap from the valve stem on the left front tire. Decrease the air pressure until the horn sounds.  
**Note:** *The single horn tone confirms that the sensor identification code has been learned by the module for this position. If a double horn is heard, the reset procedure was unsuccessful, and you must repeat it.*
7. Remove the valve cap from the valve stem on the right front tire. Decrease the air pressure until the horn sounds.
8. Remove the valve cap from the valve stem on the right rear tire. Decrease the air pressure until the horn sounds.
9. Remove the valve cap from the valve stem on the left rear tire. Decrease the air pressure until the horn sounds. Training is complete after the horn sounds for the last tire trained, driver side rear tire, the system indicator stops flashing, and a message shows in the information display.
10. Turn the ignition off. If two short horn beeps are heard, the reset procedure was unsuccessful and you must repeat it. If after repeating the procedure and two short beeps are heard when the ignition is turned to off, seek assistance from your authorized dealer.
11. Set all four tires to the recommended air pressure as indicated on the Safety Compliance Certification Label, affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position or Tire Label located on the B-Pillar or the edge of the driver door.

## CHANGING A ROAD WHEEL (IF EQUIPPED)



**WARNING:** If the tire pressure monitor sensor becomes damaged it may not function.

**Note:** *You should only use tire sealants in roadside emergencies as they may cause damage to the tire pressure monitoring system sensor.*

**Note:** *The tire pressure monitoring system indicator light illuminates when the spare tire is in use. To restore the full function of the monitoring system, all road wheels equipped with tire pressure monitoring sensors must be mounted on the vehicle.*

If you get a flat tire when driving, do not apply the brake heavily. Instead, gradually decrease your speed. Hold the steering wheel firmly and slowly move to a safe place on the side of the road.

Have a flat serviced by an authorized dealer in order to prevent damage to the tire pressure monitoring system sensors. See **Tire Pressure Monitoring System** (page 263). Replace the spare tire with a road tire as soon as possible. During repairing or replacing of the flat tire, have the authorized dealer inspect the tire pressure monitoring system sensor for damage.

# Wheels and Tires

## Dissimilar Spare Wheel and Tire Assembly Information



**WARNING:** Failure to follow these guidelines could result in an increased risk of loss of vehicle control, injury or death.

If you have a dissimilar spare wheel and tire, then it is intended for temporary use only. This means that if you need to use it, you should replace it as soon as possible with a road wheel and tire assembly that is the same size and type as the road tires and wheels that were originally provided by us. If the dissimilar spare tire or wheel is damaged, you should replace it rather than repair it.

A dissimilar spare wheel and tire assembly is defined as a spare wheel and tire assembly that is different in brand, size or appearance from the road tires and wheels and can be one of two types:

**2. Full-size dissimilar spare with label on wheel:** This spare tire has a label on the wheel that states: THIS WHEEL AND TIRE ASSEMBLY FOR TEMPORARY USE ONLY.

When driving with one of the dissimilar spare tires listed above, do not:

- Exceed 50 mph (80 km/h).
- Load the vehicle beyond maximum vehicle load rating listed on the Safety Compliance Label.
- Tow a trailer.
- Use snow chains on the end of the vehicle with the dissimilar spare tire.
- Use more than one dissimilar spare tire at a time.
- Use commercial car washing equipment.
- Try to repair the dissimilar spare tire.

Use of one of the dissimilar spare tires listed above at any one wheel location can lead to impairment of the following:

- Handling, stability and braking performance.
- Comfort and noise.
- Ground clearance and parking at curbs.
- Winter weather driving capability.
- Wet weather driving capability.
- All-wheel driving capability.

### 3. Full-size dissimilar spare without label on wheel

When driving with the full-size dissimilar spare wheel and tire assembly, do not:

- Exceed 70 mph (113 km/h).
- Use more than one dissimilar spare wheel and tire assembly at a time.
- Use commercial car washing equipment.
- Use snow chains on the end of the vehicle with the dissimilar spare wheel and tire assembly.

The usage of a full-size dissimilar spare wheel and tire assembly can lead to impairment of the following:

- Handling, stability and braking performance.
- Comfort and noise.
- Ground clearance and parking at curbs.
- Winter weather driving capability.
- Wet weather driving capability.
- All-wheel driving capability.

When driving with the full-size dissimilar spare wheel and tire assembly additional caution should be given to:

- Towing a trailer.
- Driving vehicles equipped with a camper body.
- Driving vehicles with a load on the cargo rack.



# Wheels and Tires

Drive cautiously when using a full-size dissimilar spare wheel and tire assembly and seek service as soon as possible.

## Tire Change Procedure

**WARNING:** To reduce the risk of possible serious injury or death, do not remove the full size spare tire from the factory secured location. This location is necessary to achieve police-rated 75 mph (120 km/h) rear impact crash-test performance. Removal increases the risk of fuel leak in high-speed rear impacts.

**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.

**WARNING:** Check that the vehicle jack is not damaged or deformed and the thread is lubricated and clean.

**WARNING:** To help prevent your vehicle from moving when changing a wheel, shift the transmission into park (P), set the parking brake and use an appropriate block or wheel chock to secure the wheel diagonally opposite to the wheel being changed. For example, when changing the front left wheel, place an appropriate block or wheel chock on the right rear wheel.

**WARNING:** Always use the jack provided as original equipment with your vehicle. If using a jack other than the one provided, make sure the jack capacity is adequate for the vehicle weight, including any vehicle cargo or modifications. If you are unsure if the jack capacity is adequate, contact the authorized dealer.

**WARNING:** Do not work on your vehicle when the jack is the only support as your vehicle could slip off the jack. Failure to follow this instruction could result in personal injury or death.

**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.

**WARNING:** Never place anything between the vehicle jack and your vehicle.

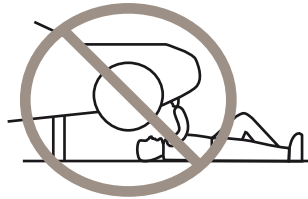
**WARNING:** Never place anything between the vehicle jack and the ground.

**WARNING:** Park your vehicle so that you do not obstruct the flow of traffic or place yourself in any danger and set up a warning triangle.

**WARNING:** Do not attempt to change a tire on the side of the vehicle close to moving traffic. Pull far enough off the road to avoid the danger of being hit when operating the jack or changing the wheel.

**Note:** *Passengers should not remain in your vehicle when the vehicle is being jacked.*

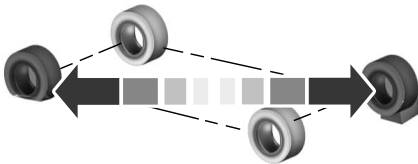
**Note:** *Jack at the specified locations to avoid damage to the vehicle.*



# Wheels and Tires

**Note:** No maintenance or additional lubrication of your jack is required over the service life of your vehicle.

1. Park on a level surface, set the parking brake and switch on the hazard flashers.
2. Apply the parking brake, place the transmission in park (P) or reverse (R) for manual transmission. Turn the engine off.



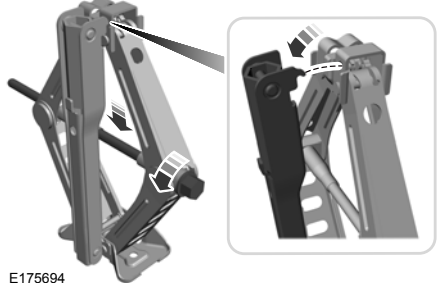
E142551

3. Block the wheel diagonally opposite the flat tire. For example, if the left front tire is flat, block the right rear wheel.



E288598

4. Turn the wing nut securing the spare tire counterclockwise, remove the wing nut.
5. Remove the spare tire, jack and wrench from the spare tire storage compartment under the trunk load floor.



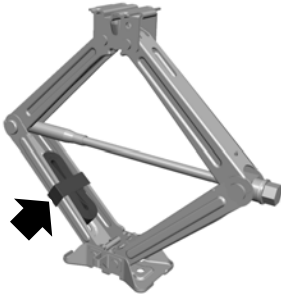
E175694

6. Turn the hex nut on the jack counterclockwise to remove the lug wrench from jack. This lowers the jack and loosens the mechanical lock.

# Wheels and Tires

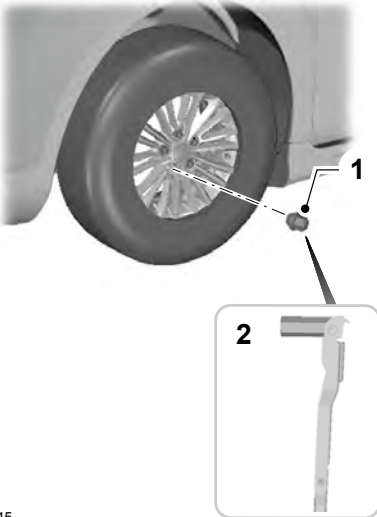


7. Unfold the wrench for use.



E288597

8. Remove the strap from the jack.



E181745

9. Loosen each wheel lug nut one-half turn counterclockwise, but do not remove them until the flat tire is raised off the ground.



E145908

10. Find the jacking points shown here, small arrow-shaped marks on the sills show the location of the jacking points.

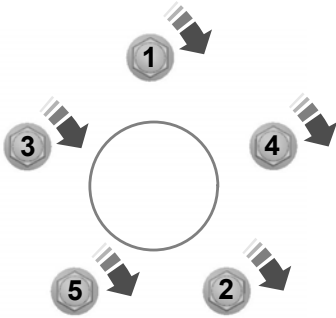


E201156

11. Place the jack at the jacking point next to the tire which you are changing. Turn the lug wrench handle clockwise until the flat tire is completely off the ground.
12. Remove the lug nuts with the lug wrench.
13. Replace the flat tire with the spare tire, making sure the valve stem is facing outward.
14. Install the lug nuts snug against the hub. Do not fully tighten the lug nuts until the vehicle is lowered.

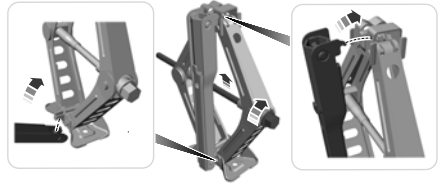
# Wheels and Tires

15. Turn the wrench handle counterclockwise to lower the vehicle completely.



16. Remove the jack and fully tighten the lug nuts in the order shown. See **Technical Specifications** (page 274).
17. Remove the wheel blocks.

## Stowing the Jack



1. To store the folded wrench on the jack, engage the bracket of the jack base and the lug wrench pin, swing the wrench upwards, adjust jack height until the wrench hook engages the hole on jack. Tighten the hex nut clockwise by hand until secure.
2. Place the jack in the spare tire compartment, install the wing nut and tighten clockwise by hand until secure.

## Stowing the Flat Tire

1. Secure the flat road wheel and tire in the spare tire storage compartment under the trunk load floor. Place the flat road wheel and tire over the stowed jack and secure with the wing nut.

# Wheels and Tires

## TECHNICAL SPECIFICATIONS

### Wheel Lug Nut Torque Specifications



**WARNING:** When you install a wheel, always remove any corrosion, dirt or foreign materials present on the mounting surfaces of the wheel or the surface of the wheel hub, brake drum or brake disc that contacts the wheel. Make sure to secure any fasteners that attach the rotor to the hub so they do not interfere with the mounting surfaces of the wheel. Installing wheels without correct metal-to-metal contact at the wheel mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while your vehicle is in motion, resulting in loss of vehicle control, personal injury or death.

Bolt Size	lb.ft (Nm) <sup>1</sup>
M14 x 1.5	150 lb.ft (204 Nm)

<sup>1</sup> Torque specifications are for nut and bolt threads free of dirt and rust. Use only our recommended replacement fasteners.

Retighten the lug nuts to the specified torque within 100 miles (160 kilometers) after any wheel disturbance, such as tire rotation, changing a flat tire or wheel removal.



A Wheel pilot bore.

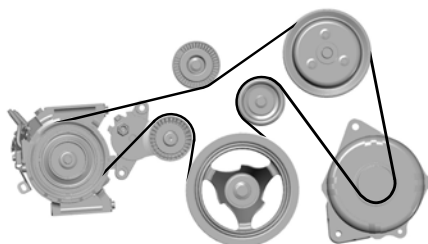
Inspect the wheel pilot bore and mounting surface prior to installation. Remove any visible corrosion or loose particles.

# Capacities and Specifications

## ENGINE SPECIFICATIONS - 3.0L

Engine	3.0L
Displacement.	180 in <sup>3</sup> (2,956 cm <sup>3</sup> )
Fuel type.	Minimum 87 octane
Firing order.	1-4-2-5-3-6
Ignition system.	Coil on plug
Spark plug gap.	0.028–0.031 in (0.7–0.8 mm)
Compression ratio.	9.5:1

## Drivebelt Routing

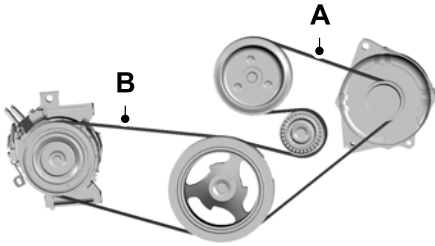


## ENGINE SPECIFICATIONS - 3.3L

Engine	3.3L
Displacement.	204 in <sup>3</sup> (3,340 cm <sup>3</sup> )
Fuel type.	Minimum 87 octane
Firing order.	1-4-2-5-3-6
Ignition system.	Coil on plug
Spark plug gap.	0.049–0.053 in (1.25–1.35 mm)
Compression ratio.	12.0:1

# Capacities and Specifications

## Drivebelt Routing

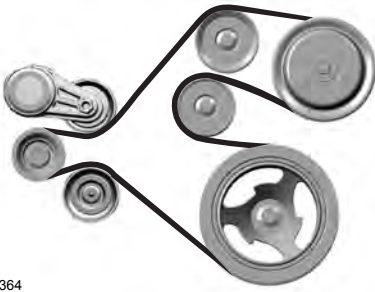


- A. Long drivebelt is on second pulley groove farthest from engine.
- B. Short drivebelt is on first pulley groove closest to engine.

## ENGINE SPECIFICATIONS - 3.3L, HYBRID ELECTRIC VEHICLE (HEV)

Engine	3.3L HEV
Displacement.	204 in <sup>3</sup> (3,340 cm <sup>3</sup> )
Fuel type.	Minimum 87 octane
Firing order.	1-4-2-5-3-6
Ignition system.	Coil on plug
Spark plug gap.	0.049–0.053 in (1.25–1.35 mm)
Compression ratio.	12.0:1

## Drivebelt Routing



E291364

# Capacities and Specifications

## MOTORCRAFT PARTS - 3.0L

Component	Part Number
Air filter.	FA-1884
Oil filter. <sup>1</sup>	FL-2062
Battery. <sup>2</sup>	BXT-94RH7-730
	BAGM-49H8-850
Spark plugs. <sup>3</sup>	SP-578
Cabin air filter.	FP-89
Windshield wiper blade.	WW-2616 (driver side) WW-2113 (passenger side)
Rear window wiper blade.	WW-1110

<sup>1</sup> If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

<sup>2</sup> See your authorized dealer for correct replacement.

<sup>3</sup> For spark plug replacement, contact your authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 326).

We recommend Motorcraft replacement parts available at your authorized dealer or at [fordparts.com](http://fordparts.com) for scheduled maintenance. These parts engineered for your vehicle meet or exceed our specifications. Use of other parts could impact vehicle performance, emissions and durability. Your warranty could be void for any damage related to use of other parts.



## Capacities and Specifications

### MOTORCRAFT PARTS - 3.3L

Component	Part Number
Air filter.	FA-1947
Oil filter. <sup>1</sup>	FL-500-S
Battery. <sup>2</sup>	BXT-94RH7-730
	BAGM-94RH7-800
	BAGM-49H8-850
Spark plugs. <sup>3</sup>	SP-520
Cabin air filter.	FP-89
Windshield wiper blade.	WW-2616 (driver side) WW-2113 (passenger side)
Rear window wiper blade.	WW-1110

<sup>1</sup>If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

<sup>2</sup>See your authorized dealer for correct replacement.

<sup>3</sup>For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 326).

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# Capacities and Specifications

## Capacities

Variant	Refrigerant	Refrigerant Oil
Without auxiliary A/C.	24 oz (0.68 kg)	3.04 fl oz (90 ml)
With auxiliary A/C.	35 oz (0.99 kg)	5.41 fl oz (160 ml)

## Materials

Name	Specification
R-1234yf Refrigerant(U.S.) R-1234yf Refrigerant / Frigorigène R-1234yf(Canada) YN-33-A(U.S.) HS7Z-19B519-BA(Canada)	WSS-M17B21-A
Motorcraft® R-1234yf Refrigerant PAG Oil(U.S.) Motorcraft® R-1234yf Refrigerant PAG Oil / Huile PAG pour frigorigène R-1234yf Motorcraft®(Canada) YN-35(U.S. & Canada)	WSS-M2C300-A2

## Automatic Transmission

**Note:** Only use MERCON® ULV transmission fluid for automatic transmissions that require MERCON® ULV transmission fluid. The use of any other fluid could cause transmission damage.

## Capacities

Variant	Quantity
All.	14.3 qt (13.5 L) <sup>1</sup>

<sup>1</sup> Approximate dry fill capacity. Actual amount could vary during fluid changes.

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid (U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft® (Canada) XT-12-QULV (U.S. & Canada)	WSS-M2C949-A, MERCON® ULV

## Engine Coolant

### Capacities

Variant	Quantity
Without auxiliary heater.	15.5 qt (14.7 L)
With auxiliary heater.	18.0 qt (17 L)

## Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/Coolant (U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft® (Canada) VC-13DL-G (U.S.) CVC-13DL-G (Canada)	WSS-M97B57-A2

# Capacities and Specifications

## Engine Oil



An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SP requirements and display the API Certification Mark for gasoline engines.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty does not cover.

## Capacities

Variant	Including the Oil Filter
All.	6.0 qt (5.7 L)

## Materials

Name	Specification
Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil(U.S.) Motorcraft® SAE 5W-30 Super Premium Motor Oil / Huile moteur de très haute qualité SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP(U.S.) CXO-5W30-LSP6(Canada)	WSS-M2C961-A1

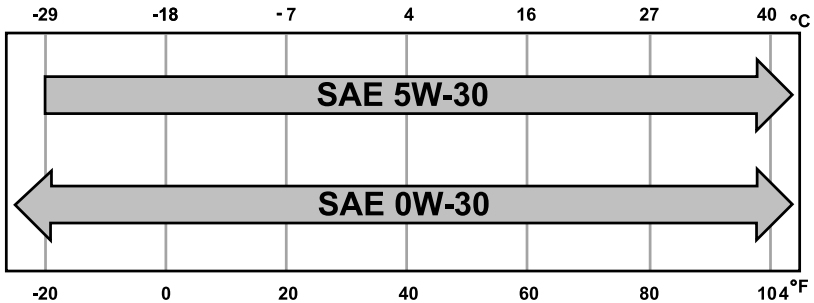
## Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extremely cold climates, where the ambient temperature reaches -22°F (-30°C) or below.

# Capacities and Specifications

## Materials

Name	Specification
Engine Oil - SAE 0W-30 - Synthetic Blend	WSS-M2C963-A1



## Fuel Tank

### Capacities

Variant	Quantity
All.	20.2 gal (76.5 L)

## Grease

### Materials

Name	Specification
Motorcraft® Premium Long-Life Grease(U.S.) Motorcraft® Premium Long-Life Grease / Graisse longue durée de qualité première Motor- craft®(Canada) XG-1-E1(U.S. & Canada)	ESA-MIC75-B
Motorcraft® Multi-Purpose Grease Spray(U.S.) Motorcraft® Multi-Purpose Grease Spray / Graisse tout usage en aérosol Motorcraft®(Canada) XL-5-A(U.S. & Canada)	ESB-MIC93-B

# Capacities and Specifications

## Hydraulic Brake System

### Materials

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

**Note:** We recommend using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

### Locks

### Materials

Name	Specification
Motorcraft® Penetrating and Lock Lubricant(U.S.) Motorcraft® Penetrating Fluid / Liquide dégrissant Motorcraft®(Canada) XL-1(U.S.) CXC-51-A(Canada)	-

## Transfer Case

### Capacities

Variant	Quantity
All.	1.1 qt (1 L)

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid (U.S.) Motorcraft® MERCON® LV Automatic Transmission Fluid / Huile pour boîte automatique MERCON® LV Motorcraft® (Canada) XT-10-QLVC (U.S.) CXT-10-LV6 (Canada)	WSS-M2C938-AMERCON® LV,

## Front Axle

### Capacities

Variant	Quantity
All-wheel drive.	0.6 qt (0.6 L)

## Materials

Name	Specification
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant (U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft® (Canada) XY-75W140-QL (U.S.) CXY-75W140-1L (Canada)	WSL-M2C192-A

## Rear Axle

### Capacities

Variant	Quantity
All.	1.9 qt (1.8 L)



# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant (U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoides SAE 75W-85 Motorcraft® (Canada) XY-75W85-QL (U.S. & Canada)	WSS-M2C942-A

## Washer Reservoir

### Capacities

Variant	Quantity
All.	Fill as required.

## Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant (U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft® (Canada) ZC-32-B2 (U.S.) CXC-37-A/B/D/F (Canada)	WSS-M14P19-A

## CAPACITIES AND SPECIFICATIONS - 3.3L

Use oil and fluid that meets the defined specification and viscosity grade.

If you do not use oil and fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.

- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Reduced brake performance.

# Capacities and Specifications

## Air Conditioning System



**WARNING:** The air conditioning refrigerant system contains refrigerant

under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening the air conditioning refrigerant system can cause personal injury.

## Capacities

Variant	Refrigerant	Refrigerant Oil
Without auxiliary A/C.	24 oz (0.68 kg)	3.04 fl oz (90 ml)
With auxiliary A/C.	35 oz (0.99 kg)	5.41 fl oz (160 ml)

## Materials

Name	Specification
R-1234yf Refrigerant (U.S.) R-1234yf Refrigerant / Frigorigène R-1234yf (Canada) YN-33-A (U.S.) HS7Z-19B519-BA (Canada)	WSS-M17B21-A
Motorcraft® R-1234yf Refrigerant PAG Oil (U.S.) Motorcraft® R-1234yf Refrigerant PAG Oil / Huile PAG pour frigorigène R-1234yf Motorcraft® (Canada) YN-35 (U.S. & Canada)	WSS-M2C300-A2

## Automatic Transmission

**Note:** Only use *MERCON ULV* transmission fluid for automatic transmissions that require *MERCON ULV* transmission fluid. The use of any other fluid could cause transmission damage.

## Capacities

Variant	Quantity
All.	14.3 qt (13.5 L) <sup>1</sup>

<sup>1</sup> Approximate dry fill capacity. Actual amount could vary during fluid changes.

# Capacities and Specifications

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## Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft®(Canada) XT-12-QULV(U.S. & Canada)	WSS-M2C949-A, MERCON® ULV

## Engine Coolant

### Capacities

Variant	Quantity
Without auxiliary heater.	12.9 qt (12.2 L)
With auxiliary heater.	15.2 qt (14.4 L)

## Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/ Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

# Capacities and Specifications

## Engine Oil



An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SP requirements and display the API Certification Mark for gasoline engines.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty does not cover.

## Capacities

Variant	Including the Oil Filter
All.	6.0 qt (5.7 L)

## Materials

Name	Specification
Motorcraft® SAE 5W-20 Synthetic Blend Motor Oil(U.S.) Motorcraft® SAE 5W-20 Super Premium Motor Oil / Huile moteur de très haute qualité SAE 5W-20 Motorcraft®(Canada) XO-5W20-Q1SP(U.S.) CXO-5W20-LSP6(Canada)	WSS-M2C960-A1

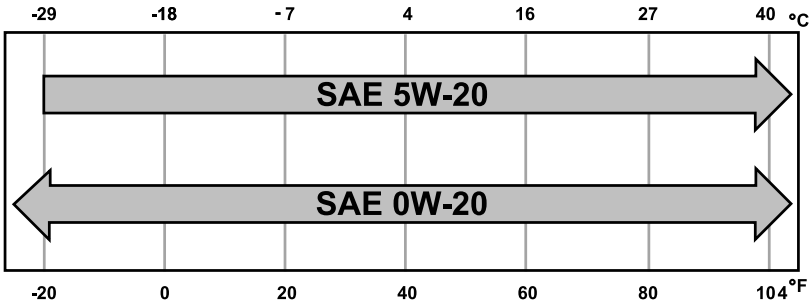
## Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extremely cold climates, where the ambient temperature reaches -22°F (-30°C) or below.

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 0W-20 Synthetic Blend Motor Oil(U.S.) (Canada) XO-0W20-Q1SP(U.S.)	WSS-M2C962-A1



## Fuel Tank

### Capacities

Variant	Quantity
All.	20.2 gal (76.5 L)

## Grease

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Premium Long-Life Grease(U.S.) Motorcraft® Premium Long-Life Grease / Graisse longue durée de qualité première Motor- craft®(Canada) XG-1-E1(U.S. & Canada)	ESA-M1C75-B
Motorcraft® Multi-Purpose Grease Spray(U.S.) Motorcraft® Multi-Purpose Grease Spray / Graisse tout usage en aérosol Motorcraft®(Canada) XL-5-A(U.S. & Canada)	ESB-M1C93-B

## Hydraulic Brake System

### Materials

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

**Note:** We recommend using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

### Locks

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Penetrating and Lock Lubricant(U.S.) Motorcraft® Penetrating Fluid / Liquide dégrissant Motorcraft®(Canada) XL-1(U.S.) CXC-51-A(Canada)	-

## Transfer Case

### Capacities

Variant	Quantity
All.	1.1 qt (1 L)

## Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® LV Automatic Transmission Fluid / Huile pour boîte automatique MERCON® LV Motorcraft®(Canada) XT-10-QLVC(U.S.) CXT-10-LV6(Canada)	WSS-M2C938-AMERCON® LV,

## Front Axle

### Capacities

Variant	Quantity
All-wheel drive.	0.6 qt (0.6 L)

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant (U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft® (Canada) XY-75W140-QL (U.S.) CXY-75W140-1L (Canada)	WSL-M2C192-A

## Rear Axle

### Capacities

Variant	Quantity
All.	1.9 qt (1.8 L)

## Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant (U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoides SAE 75W-85 Motorcraft® (Canada) XY-75W85-QL (U.S. & Canada)	WSS-M2C942-A

## Washer Reservoir

### Capacities

Variant	Quantity
All.	Fill as required.



# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant(U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft®(Canada) ZC-32-B2(U.S.) CXC-37-A/B/D/F(Canada)	WSS-M14P19-A

## CAPACITIES AND SPECIFICATIONS - 3.3L, HYBRID ELECTRIC VEHICLE (HEV)

Use oil and fluid that meets the defined specification and viscosity grade.

If you do not use oil and fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.

- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Reduced brake performance.

### Air Conditioning System



**WARNING:** The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening the air conditioning refrigerant system can cause personal injury.

## Capacities

Variant	Refrigerant	Refrigerant Oil
Without auxiliary A/C.	26 oz (0.74 kg)	5.41 fl oz (160 ml)
With auxiliary A/C.	35 oz (0.99 kg)	8.12 fl oz (240 ml)

# Capacities and Specifications

## Materials

Name	Specification
R-1234yf Refrigerant(U.S.) R-1234yf Refrigerant / Frigorigène R-1234yf(Canada) YN-33-A(U.S.) HS7Z-19B519-BA(Canada)	WSS-M17B21-A
Motorcraft® R-1234yf Refrigerant POE Oil(U.S.) Motorcraft® R-1234yf Refrigerant POE Oil / Huile POE pour frigorigène R-1234yf Motorcraft®(Canada) YN-34(U.S. & Canada)	WSS-M2C31-B2

## Automatic Transmission

**Note:** Only use MERCON® ULV transmission fluid for automatic transmissions that require MERCON® ULV transmission fluid. The use of any other fluid could cause transmission damage.

## Capacities

Variant	Quantity
All.	14.8 qt (14 L) <sup>1</sup>

<sup>1</sup> Approximate dry fill capacity. Actual amount could vary during fluid changes.

## Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft®(Canada) XT-12-QULV(U.S. & Canada)	WSS-M2C949-A, MERCON® ULV

# Capacities and Specifications

## Engine Coolant

### Capacities

Variant	Quantity
Engine without auxiliary heater.	13.9 qt (13.2 L)
Engine with auxiliary heater.	16.4 qt (15.5 L)
HEV low temperature cooling loop (battery and electric motor electronics)	4.6 qt (4.4 L)

### Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

## Engine Oil



An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SP requirements and display the API Certification Mark for gasoline engines.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty does not cover.

### Capacities

Variant	Including the Oil Filter
All.	6.0 qt (5.7 L)

# Capacities and Specifications

## Materials

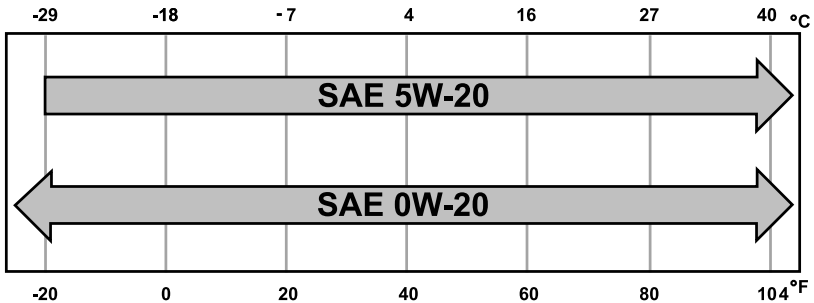
Name	Specification
Motorcraft® SAE 5W-20 Synthetic Blend Motor Oil(U.S.) Motorcraft® SAE 5W-20 Super Premium Motor Oil / Huile moteur de très haute qualité SAE 5W-20 Motorcraft®(Canada) XO-5W20-Q1SP(U.S.) CXO-5W20-LSP6(Canada)	WSS-M2C960-A1

## Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extremely cold climates, where the ambient temperature reaches -22°F (-30°C) or below.

## Materials

Name	Specification
Motorcraft® SAE 0W-20 Synthetic Blend Motor Oil(U.S.) (Canada) XO-0W20-Q1SP(U.S.)	WSS-M2C962-A1



# Capacities and Specifications

## Fuel Tank

### Capacities

Variant	Quantity
All.	18.0 gal (68.1 L)

## Grease

### Materials

Name	Specification
Motorcraft® Premium Long-Life Grease(U.S.) Motorcraft® Premium Long-Life Grease / Graisse longue durée de qualité première Motor- craft®(Canada) XG-1-E1(U.S. & Canada)	ESA-M1C75-B
Motorcraft® Multi-Purpose Grease Spray(U.S.) Motorcraft® Multi-Purpose Grease Spray / Graisse tout usage en aérosol Motorcraft®(Canada) XL-5-A(U.S. & Canada)	ESB-M1C93-B

## Hydraulic Brake System

### Materials

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

**Note:** We recommend using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

## Locks

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Penetrating and Lock Lubricant(U.S.) Motorcraft® Penetrating Fluid / Liquide dégrissant Motorcraft®(Canada) XL-1(U.S.) CXC-51-A(Canada)	-

## Transfer Case

### Capacities

Variant	Quantity
All.	1.1 qt (1 L)

## Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® LV Automatic Transmission Fluid / Huile pour boîte automatique MERCON® LV Motorcraft®(Canada) XT-10-QLVC(U.S.) CXT-10-LV6(Canada)	WSS-M2C938-AMERCON® LV,

## Front Axle

### Capacities

Variant	Quantity
All-wheel drive.	0.6 qt (0.6 L)

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant(U.S.) Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant / Lubrifiant synthétique pour pont arrière SAE 75W-140 Motorcraft®(Canada) XY-75W140-QL(U.S.) CXY-75W140-1L(Canada)	WSL-M2C192-A

## Rear Axle

### Capacities

Variant	Quantity
All.	1.9 qt (1.8 L)

## Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant(U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoides SAE 75W-85 Motorcraft®(Canada) XY-75W85-QL(U.S. & Canada)	WSS-M2C942-A

## Washer Reservoir

### Capacities

Variant	Quantity
All.	Fill as required.

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant(U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft®(Canada) ZC-32-B2(U.S.) CXC-37-A/B/D/F(Canada)	WSS-M14P19-A

## BULB SPECIFICATION CHART

Replacement bulbs are specified in the chart below. Headlamp bulbs must be marked with an authorized D.O.T. marking for North America to make sure they have the proper lamp performance, light brightness, light pattern and safe visibility. The correct bulbs will not damage the lamp assembly or void the lamp assembly warranty and will provide quality bulb illumination time.

### Exterior Lamps

Lamp	Specification	Power (Watt)
Front park lamps.	LED.	LED.
Front side marker lamp.	LED.	LED.
Front warning lamp.	LED.	LED.
Front direction indicator.	LED.	LED.
Daytime running lamps.	LED.	LED.
Headlamp low beam.	LED.	LED.
Headlamp high beam.	LED.	LED.
Front auxiliary warning lamp.	LED.	LED.
Exterior mirror warning lamp.	LED.	LED.
Rear side marker lamp.	LED.	LED.



## Capacities and Specifications

Lamp	Specification	Power (Watt)
Rear quarter window warning lamp.	LED.	LED.
Rear auxiliary warning lamp.	LED.	LED.
Brake and rear lamp.	LED.	LED.
Central high mounted brake lamp.	LED.	LED.
Rear direction indicator.	3757NAK, PY27/7W	27
Reversing lamp.	W21W	21
License plate lamp.	W5W	5
Spot Lamp.	LED.	LED.

**Note:** LED lamps are not serviceable. See an authorized dealer if they fail.

### Interior Lamps

Lamp	Specification	Power (Watt)
All interior lamps.	LED.	LED.

**Note:** LED lamps are not serviceable. See an authorized dealer if they fail.

# Audio System

## GENERAL INFORMATION



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any

hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

## Radio Frequencies and Reception Factors

**Note:** *Listening to loud audio for long periods of time could damage your hearing.*

### Radio Reception Factors

<b>Distance and strength</b>	The further you travel from an AM or FM station, the weaker the signal and the weaker the reception.
<b>Terrain</b>	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.
<b>Station overload</b>	When you pass a ground-based broadcast repeating tower, a stronger signal may overtake a weaker one and result in the audio system muting.

## AUDIO UNIT



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.



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**Note:** *Depending on your vehicle option package, the controls may look different from what you see here.*

**Note:** *Some features, such as satellite radio, may not be available in your location. Check with an authorized dealer.*

**Note:** *The touchscreen system controls most of the audio features.*

## Accessing the Sound Settings



Press and release the button.

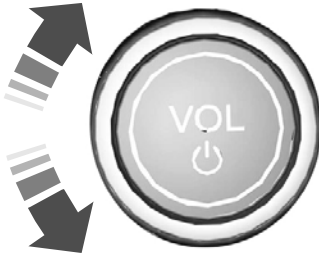
# Audio System

## Accessing the System Settings



Press and release the button.

## Adjusting the Volume



Turn to adjust the volume.

## Changing Radio Stations



E248947

In radio mode, turn to search through the radio frequency band. In satellite radio mode, turn to find the previous or next available satellite radio station.

## Pausing or Playing Media



In media mode, press and release the button to pause playback. Press the button again to resume playback.

In radio mode, press and release the button to mute the radio. Press the button again to unmute.

## Returning to the Previous Screen



Press and release the button.

## Selecting Media



Press the button to select media mode.

Press the button again to display the available media sources. Repeatedly press the button to scroll through the available media sources.

# Audio System

## Scrolling Through the Menu Options



E248947

## Selecting a Menu Option



E248946

## Selecting the Radio



Press release the button to select radio mode.

Press and release the button again to display the available radio sources. Repeatedly press the button to scroll through the available radio sources.

## Switching the Audio Unit On and Off



Press and release the button.

## Switching the Display On and Off



Press and release the button.

## Using a Cell Phone



Press and release to make a call from a recent call list, contact list or dial a number.

## Using Seek, Fast Forward and Reverse



Press and release the button to skip to the next track.

Press and hold the button to fast forward through the track.



Press and release the button to return to the beginning of a track.

Repeatedly press the button to return to previous tracks.

Press and hold the button to fast rewind.

In radio mode, select a frequency band and press and release either button. The system stops at the first station it finds in that direction.

In satellite radio mode, press and release to select the next or previous satellite radio station. If you select a specific category, such as jazz, rock or news, press to find the next or previous station in the category you select.

# Audio System

## USB PORT (IF EQUIPPED)



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

### USB A



### USB C



The USB port allows you to plug in media playing devices, memory sticks and charge devices.

**Note:** We recommend using only USB-IF certified cables and adapters. Non-certified cables and adapters may not work.

### Locating the USB Ports

The USB ports may be in the following locations:

- Inside the media bin.
- Inside the center console.
- On the lower instrument panel.

**Note:** The number and type of USB ports may vary depending on your vehicle.

**Note:** Not all USB ports in your vehicle have data transfer capabilities. See **Auxiliary Power Points** (page 116).

## GENERAL INFORMATION

SYNC is an in-vehicle communications system that works with your Bluetooth enabled cellular phone and portable media player. This allows you to:

- Make and receive calls.
- Access and play music from your portable music player.
- Use 911 Assist or Emergency Assistance and applications via SYNC AppLink.\*
- Access phonebook contacts and music using voice commands.
- Stream music from your connected phone.
- Text message.
- Use the advanced voice recognition system.
- Charge your USB device (if your device supports this).

\*These features are not available in all markets and may require activation. Available AppLink enabled apps vary by market.

Make sure that you review your device's manual before using it with SYNC.

## Support

SYNC support is available at your regional Ford website. See **SYNC™ Troubleshooting** (page 315).

## SYNC Owner Account

Why do I need a SYNC owner account?

- Essential for keeping up with the latest software downloads available for SYNC.
- Access to customer support for any questions you may have.

## Driving Restrictions

For your safety, certain features are speed-dependent and restricted when your vehicle is traveling over 3 mph (5 km/h).

## Safety Information



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

When using SYNC:

- Do not operate playing devices if the power cords or cables are broken, split or damaged. Place cords and cables out of the way, so they do not interfere with the operation of pedals, seats, compartments or safe driving abilities.
- Do not leave playing devices in your vehicle during extreme conditions as it could cause them damage. See your device's manual for further information.
- Do not attempt to service or repair the system. See an authorized dealer.

## Privacy Information

When a cellular phone is connected to SYNC, the system creates a profile within your vehicle that is linked to that cellular phone. This profile is created in order to offer you more cellular features and to operate more efficiently. Among other things, this profile may contain data about your cellular phone book, text messages

(read and unread), and call history, including history of calls when your cellular phone was not connected to the system. In addition, if you connect a media device, the system creates and retains an index of supported media content. The system also records a short development log of approximately 10 minutes of all recent system activity. The log profile and other system data may be used to improve the system and help diagnose any problems that may occur.

The cellular profile, media device index, and development log will remain in the vehicle unless you delete them and are generally accessible only in the vehicle when you connect the cellular phone or media player. If you no longer plan to use the system or the vehicle, we recommend you perform a Master Reset to erase all stored information.

No one can access system data without special equipment and access to the vehicle's SYNC module. Ford Motor Company and Ford of Canada will not access the system data for any purpose other than as described absent consent, a

court order, or where required by law enforcement, other government authorities, or other third parties acting with lawful authority. Other parties may seek to access the information independently of Ford Motor Company and Ford of Canada. For further privacy information, see the section on 911 Assist. See **SYNC™ Applications and Services** (page 311).

## USING VOICE RECOGNITION

This system helps you control many features using voice commands. This allows you to keep your hands on the wheel and focus on what is around you.

### Initiating a Voice Session



Press the voice button. A list of available voice commands appears in the display.

### Global Voice Commands

These voice commands are always available. You can say them at any time.

Global voice commands	
Help	Gives you available commands you can use on the current screen.
List of Commands	Gives you a list of possible voice commands.
Cancel	This command ends the voice session. You can also cancel a session by pressing seek up, seek down, or holding the voice button for two or more seconds.

## Helpful Hints

- Make sure the interior of your vehicle is as quiet as possible. Wind noise from open windows and road vibrations may prevent the system from correctly recognizing spoken commands.
- Before giving a voice command, wait for the system announcement to finish, followed by a single tone. Any command spoken before this does not register with the system.
- Speak naturally, without long pauses between words.
- You can interrupt the system at any time while it is speaking by pressing the voice button. You can cancel a voice session by pressing and holding the voice button.

## System Interaction and Feedback

The system provides feedback through audible tones, prompts, questions and spoken confirmations depending on the situation and the chosen level of interaction. You can customize the voice recognition system to provide more or less instruction and feedback.

The default setting is to a higher level of interaction in order to help you learn to use the system. You can change these settings at any time.

### Adjusting the Interaction Level



Press the voice button. When prompted, say:

Voice Command	Action and Description
Interaction Mode Standard	Provides more detailed interaction and guidance. (Recommended for first time users.)
Interaction Mode Advanced	Provides less audible interaction and guidance.

## Phone Confirmation

Using phone confirmations the system asks you to verify before placing any calls.

### To adjust this setting press the voice button, when prompted say:

Voice Command	Action and Description
Phone Confirmation Off	When enabled, this feature will prompt you to confirm any voice initiated call command prior to the call being placed.
Phone Confirmation On	The system will make a best guess; you may still occasionally be asked to confirm settings.



## USING SYNC™ WITH YOUR PHONE

Hands-free calling is one of the main features of SYNC. While the system supports a variety of features, many are dependent on your cellular phone's functionality. At a minimum, most cellular phones with Bluetooth wireless technology support the following functions:

- Answering an incoming call.
- Ending a call.
- Dialing a number.
- Redialing.
- Call waiting notification.
- Caller identification.

Other features, such as text messaging using Bluetooth and automatic phonebook download, are phone-dependent features.

### Pairing a Phone

Wirelessly pairing your phone with SYNC allows you to make and receive hands-free calls.

**Note:** *Make sure to switch on the ignition and the radio. Shift the transmission into park (P) for automatic transmission or neutral (N) for manual transmission.*

### Using the Audio System

**Note:** *To scroll through the menus, press the up and down arrows on your audio system.*

1. Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.
2. Press the **Settings** button.
3. Select Bluetooth from the menu.
4. Press the **OK** button.
5. Select the option to add. This starts the pairing process.

6. When a message to begin pairing appears in the audio display, search for SYNC on your device.

Depending on your phone's capability and your market, the system may prompt you with questions, such as setting the current phone as the primary phone and downloading your phonebook.

### Using Voice Commands



Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.

### Press the voice button and when prompted say:

Voice Command	Action and Description
Pair Phone	Follow the instructions on the audio display.

### Phone Voice Commands



Press the voice button. You can do things like place a phone call and access text messages.

When prompted, say a command. See the following table for examples of commands.

Voice Command
___ List of Commands
Help
Call ___
Dial ___
Text Messages

\_\_ is a dynamic listing, meaning that it could be the name of anything, such as a contact or phone number.

## Phone Controls

Use the phone buttons on your steering wheel to answer, reject, or hang up a call.

## Accessing Features through the Phone Menu

You can access your call history, phonebook, sent text messages, as well as access phone and system settings.

1. Press the **PHONE** button to enter the phone menu.
2. Scroll through the menu to view contacts, text messages, and the phone dialer.

## SYNC™ APPLICATIONS AND SERVICES

- 911 Assist: Can alert 911 in the event of an emergency.
- SYNC AppLink: Allows you to connect to and use certain applications (if your phone is compatible).

These features may require activation. Available AppLink enabled apps vary by market.

### 911 Assist



**WARNING:** Unless the 911 Assist setting is set on before a crash, the system will not dial for help which could delay response time, potentially increasing the risk of serious injury or death after a crash.



**WARNING:** Do not wait for 911 Assist to make an emergency call if you can do it yourself. Dial emergency services immediately to avoid delayed response time which could increase the risk of serious injury or death after a crash. If you do not hear 911 Assist within five seconds of the crash, the system or phone may be damaged or non-functional.



**WARNING:** Always place your phone in a secure location in your vehicle so it does not become a projectile or get damaged in a crash. Failure to do so may cause serious injury to someone or damage the phone which could prevent 911 Assist from working properly.

**Note:** The SYNC 911 Assist feature must be set on before the incident.

**Note:** The SYNC 911 Assist feature only operates in the U.S., Canada or in a territory in which 911 is the emergency number.

**Note:** Before setting this feature on, make sure that you read the 911 Assist Privacy Notice later in this section for important information.

**Note:** If any user switches 911 Assist to on or off, that setting applies for all paired phones. If 911 Assist is switched off, either a voice message plays or a display message or an icon comes on when your vehicle is started and after a previously paired phone connects.

**Note:** Every phone operates differently. While SYNC 911 Assist works with most cellular phones, some may have trouble using this feature.

If a crash deploys an airbag (excluding knee airbags and rear inflatable safety belts [if equipped]) or activates the fuel pump shut-off, your SYNC-equipped vehicle may be able to contact emergency services by dialing 911 through a paired and connected Bluetooth-enabled phone.

See **Supplementary Restraints System** (page 41). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 195). Important information about the fuel pump shut-off is in this chapter.

## Setting 911 Assist On or Off

**Press the Settings button then select:**

Menu Item	Action and Description
911 Assist	Select the desired option, on or off.

To make sure that 911 Assist works properly:

- SYNC must be powered and working properly at the time of the incident and throughout feature activation and use.
- The 911 Assist feature must be set on before the incident.
- You must pair and connect a Bluetooth enabled and compatible cell phone to SYNC.
- A connected Bluetooth enabled phone must have the ability to make and maintain an outgoing call at the time of the incident.
- A connected Bluetooth enabled phone must have adequate network coverage, battery power and signal strength.
- The vehicle must have battery power and be located in the U.S., Canada or in a territory in which 911 is the emergency number.

## In the Event of a Crash

Not all crashes deploy an airbag or activate the fuel pump shut-off (the triggers for 911 Assist). If a connected cell phone sustains damage or loses its connection to SYNC during a crash, SYNC searches for and tries to connect to a previously paired cell phone; SYNC then attempts to call the emergency services.

Before making the call:

- SYNC provides a short window of time (about 10 seconds) to cancel the call. If you fail to cancel the call, SYNC attempts to dial 911.
- SYNC says the following, or a similar message: "SYNC will attempt to call 911, to cancel the call, press Cancel on your screen or press and hold the phone button on your steering wheel".

If you do not cancel the call, and SYNC makes a successful call, a pre-recorded message plays for the 911 operator, and then the occupant(s) in your vehicle are able to talk with the operator. Be prepared to provide your name, phone number and location immediately, because not all 911 systems are capable of receiving this information electronically.

## 911 Assist May Not Work If

- Your cellular phone or 911 Assist hardware sustains damage in a crash.
- The vehicle's battery or the SYNC system has no power.
- The phone(s) thrown from your vehicle are the ones paired and connected to the system.

## 911 Assist Privacy Notice

When you switch on 911 Assist, it may disclose to emergency services that your vehicle has been in a crash involving the deployment of an airbag or activation of the fuel pump shut-off. Certain versions or updates to 911 Assist may also be capable of electronically or verbally disclosing to 911 operators your vehicle location or other details about your vehicle or crash to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not switch the feature on.

## SYNC Mobile Apps

The system enables voice and steering wheel control of SYNC AppLink enabled smartphone apps. When an app is running through AppLink, you can control main features of the app through voice commands and steering wheel controls.

**Note:** You must pair and connect your smartphone to SYNC to access AppLink.

**Note:** Android users need to connect the phone to SYNC using Bluetooth.

**Note:** For information on available apps, supported smartphone devices and troubleshooting tips please visit the Ford website.

**Note:** Availability of SYNC AppLink enabled Apps will vary by region.

**Note:** Make sure you have an active account for the app that you have downloaded. Some apps work automatically with no setup. Other apps want you to configure your personal settings and personalize your experience by creating stations or favorites. We recommend you do this at home or outside of your vehicle.

## To Access Using the SYNC Menu

**Press the Mobile Apps button to access the menu on-screen. Then select:**

Menu Item	Action and Description
Find Mobile Apps	Scroll through the list of available applications and select a particular app.

**Note:** If you cannot find a compatible SYNC AppLink app, make sure the required app is running on the mobile device.

## To Access Using Voice Commands

**Press the voice button, then when prompted say:**

Voice Command	Action and Description
Mobile Applications	Say the name of the application after the tone. The app should start. When an app is running through SYNC, you can press the voice button and speak commands specific to the app, for example "Play Playlist Road Trip".
List Applications	SYNC lists all of the currently available mobile apps.
Find Applications	Searches your connected mobile device for SYNC-compatible mobile apps.
Help	Use this command to discover the available voice commands.

## App Permissions

App permissions are organized by groups. You can grant these group permissions individually. You can change a permission group status any time when not driving, by using the settings menu.

When you launch an app using SYNC, the system may ask you to grant certain permissions, for example:

- To allow your vehicle to provide vehicle information to the app such as, but not limited to: Fuel level, fuel economy, fuel consumption, engine speed, rain sensor, odometer, VIN, external temperature, gear position, tire pressure, and head lamp status.
- To allow your vehicle to provide driving characteristic information such as, but not limited to: MyKey, seatbelt status, engine revolutions per minute, gear position, braking events, steering wheel angle, and accelerator pedal position.
- To allow your vehicle to provide location information, including: GPS and speed.
- To allow the app to send push notifications using the vehicle display and voice capabilities while running in a background state. Push notifications may be particularly useful for news or location based apps.

**Note:** *You only need to grant permissions the first time you use an app with SYNC.*

**Note:** *Ford is not responsible or liable for any damages or loss of privacy relating to usage of an app, or dissemination of any vehicle data that you approve Ford to provide to an app.*

## Enabling SYNC Mobile Apps

In order to enable mobile apps, SYNC requires user consent to send and receive app authorization information and updates using the data plan associated with the connected device.

Data is sent to Ford in the United States through the connected device. The information is encrypted and includes, for example, the vehicle identification number of your vehicle, the SYNC module serial number, odometer, enabled apps, usage statistics and debugging information. Updates may take place.

**Note:** *You must enable mobile apps for each connected device the first time you select a mobile app using the system.*

**Note:** *Standard data rates apply. Ford is not responsible for any additional charges you may receive from your service provider, when your vehicle sends or receives data through the connected device. This includes any additional charges incurred due to driving in areas when roaming out of a home network.*

## USING SYNC™ WITH YOUR MEDIA PLAYER

SYNC supports digital media sources including: iPod, Bluetooth devices, and most USB drives. SYNC also supports audio formats, such as MP3, WMA, WAV and ACC.

### Media Sources

The **AUX** or **MEDIA** button allows you to view and select available media sources.

Press the **AUX** or **MEDIA** button to view your sources. Use the directional arrows and OK button to select your source. You can also use the steering wheel audio controls.

## Audio Voice Commands



Press the voice button. You can do things like play a specific song or album, or tune to a radio station. When prompted, say a command. See the following table for example commands. Not all commands may be available on your vehicle.

Command
___ List of Commands
Help
Pause
Play
AM ___
FM ___
CD Player
Sirius Channel ___
USB
Bluetooth Audio

\_\_\_ is a dynamic listing, meaning that it could be the name of anything, such as an artist, station, or media source.

## SYNC™ TROUBLESHOOTING

Your SYNC system is easy to use. However, should questions arise, see the tables below.

Use your regional Ford website at any time to check your phone's compatibility, register your account and set preferences as well as access a customer representative via an online chat (during certain hours).

Market	Website(s)
North America	<a href="http://www.SYNCMyRide.com">www.SYNCMyRide.com</a> <a href="http://www.SYNCMyRide.ca">www.SYNCMyRide.ca</a> <a href="http://www.sync-maroute.ca">www.sync-maroute.ca</a>

Phone issues		
Issue	Possible cause(s)	Possible solution(s)
There is excessive background noise during a phone call.	The audio control settings on your phone may be affecting SYNC performance.	Review your phone's manual about audio adjustments.
During a call, I can hear the other person but they cannot hear me.	This may be a possible phone malfunction.	Try turning off the device, resetting the device, removing the device's battery, then trying again.
SYNC is not able to download my phonebook.	This is a phone-dependent feature.	Go to the website to review your phone's compatibility.

<b>Phone issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
	This may be a possible phone malfunction.	<p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p> <p>Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.</p> <p>Use the SYNCmyphone feature available on the website.</p>
The system says Phonebook Downloaded but the phonebook in SYNC is empty or missing contacts.	This may be a limitation on your phone's capability.	<p>Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.</p> <p>If the missing contacts are stored on your SIM card, try moving them to the device memory.</p> <p>Remove any pictures or special ring tones associated with the missing contact.</p> <p>Depending upon your phone, you may have to grant SYNC permission to access your phonebook contacts. Make sure to confirm when prompted by your phone during the phonebook download.</p>
I am having trouble connecting my phone to SYNC.	This is a phone-dependent feature.	<p>Go to the website to review your phone's compatibility.</p> <p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p>

# SYNC™

<b>Phone issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
	This may be a possible phone malfunction.	<p>Try deleting your device from SYNC, deleting SYNC from your device and trying again.</p> <p>Check the security and auto accept and prompt always settings relative to the SYNC Bluetooth connection on your phone.</p> <p>Update your device's firm-ware.</p> <p>Turn off the Auto phone-book download setting.</p>
Text messaging is not working on SYNC.	<p>This is a phone-dependent feature.</p> <p>This may be a possible phone malfunction.</p>	<p>Go to the website to review your phone's compatibility.</p> <p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p>
I cannot return to the Phone menu when selecting a contact.	You are on the Select a Character screen.	Press the Phone button to return to the Phone menu.

<b>USB and media issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
I am having trouble connecting my device.	This may be a possible device malfunction.	<p>Try turning off the device, resetting the device, removing the device's battery, then trying again.</p> <p>Make sure you are using the manufacturer's cable.</p> <p>Make sure you insert the USB cable correctly into the device and the USB port.</p>



# SYNC™

<b>USB and media issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
		Make sure that the device does not have an auto-install program or active security settings.
SYNC does not recognize my device when I turn on the car.	This is a device limitation.	Make sure you are not leaving the device in your vehicle during very hot or cold temperatures.
Bluetooth audio does not stream.	This is a phone-dependent feature.  The device is not connected.	Review the device compatibility chart on the SYNC website to confirm your phone supports the Bluetooth audio streaming function.  Make sure you correctly connect the device to SYNC, and that you have pressed play on your device.
SYNC does not recognize music that is on my device.	Your music files may not contain the correct artist, song title, album or genre information.  The file may be corrupted.  The song may have copyright protection, which does not allow it to play.	Make sure that all song details are populated.  Some devices require you to change the USB settings from mass storage to MTP class.
I cannot change the Sirius station.	Sirius Replay is active.	Switch radio bands and return to Sirius or switch the feature off. You can then change the Sirius station using the directional buttons.

<b>Voice command issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
SYNC does not understand what I am saying.	<p>You may be using the wrong voice commands.</p> <p>You may be speaking too soon or at the wrong time.</p>	<p>Review the phone voice commands and the media voice commands at the beginning of their respective sections.</p> <p>After pressing the voice icon, wait until after the tone sounds and Listening appears before saying a command. Any command spoken before this does not register with the system.</p>
SYNC does not understand the name of a song or artist.	<p>You may be using the wrong voice commands.</p> <p>You may be saying the name differently than the way you saved it.</p> <p>The system may not be reading the name the same way you are saying it.</p>	<p>Review the media voice commands at the beginning of the media section.</p> <p>Say the song or artist exactly as listed. If you say "Play Artist Prince", the system does not play music by Prince and the Revolution or Prince and the New Power Generation.</p> <p>Make sure you are saying the complete title, such as "California remix featuring Jennifer Nettles".</p> <p>If the song titles are in all CAPS, you have to spell them. LOLA requires you to say "L-O-L-A".</p> <p>Do not use special characters in the title. The system does not recognize them.</p>
SYNC does not understand or is calling the wrong contact when I want to make a call.	You may be using the wrong voice commands.	Review the Phone voice commands at the beginning of the phone section.

# SYNC™

<b>Voice command issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
	<p>You may be saying the name differently than the way you saved it.</p> <p>The system may not be reading the name the same way you are saying it.</p> <p>Contacts in your phonebook may be very short and similar, or they may contain special characters.</p> <p>Your phonebook contacts may be in CAPS.</p>	<p>Make sure you are saying the contacts exactly as they are listed. For example, if you save a contact as Joe Wilson, say "Call Joe Wilson".</p> <p>Using the SYNC phone menu, open the phonebook and scroll to the name SYNC is having trouble understanding. SYNC will read the name to you, giving you some idea of the pronunciation SYNC is expecting.</p> <p>The system works better if you list full names, such as "Joe Wilson" rather than "Joe".</p> <p>Do not use special characters, such as 123 or ICE, as the system does not recognize them.</p> <p>If a contact is in CAPS, you have to spell it. JAKE requires you to say "Call J-A-K-E".</p>

<b>AppLink issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
<p>AppLink Mobile Applications: When I select "Find New Apps," SYNC does not find any applications.</p>	<p>An AppLink capable phone is not connected to SYNC.</p>	<p>Ensure you have a compatible smartphone; an Android with OS 2.3 or higher or an iPhone 3GS or newer with iOS 5.0 or higher. Additionally, ensure your phone is paired and connected to</p>

# SYNC™

<b>AppLink issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
		SYNC in order to find AppLink-capable apps on your device. iPhone users must also connect to SYNC's USB port with an Apple USB cable.
My phone is connected, but I still cannot find any apps.	AppLink-enabled apps are not installed and running on your mobile device.	Ensure you have downloaded and installed the latest version of the app from your phone's app store. Ensure the app is running on your phone. Some apps require you to register or login on the app on the phone before using them with AppLink. Also, some may have a Ford SYNC setting, so check the app's settings menu on the phone.
My phone is connected, my app(s) are running, but I still cannot find any apps.	Sometime apps do not properly close and re-open their connection to SYNC, over ignition cycles, for example.	Closing and restarting apps may help SYNC find the application if you cannot discover it inside the vehicle. On an Android device, if apps have an Exit or Quit option, select that then restart the app. If the app does not have that option, you can also manually Force Close the app by going to the phone's settings menu, selecting Apps, then finding the particular app and choosing Force stop. Remember to restart the app afterwards, then select Find New Apps on SYNC.

# SYNC™

<b>AppLink issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
		On an iPhone with iOS7+, to force close an app, double tap the home button then swipe up on the app to close it. Touch the home button again, then select the app again to restart it. After a few seconds, the app should appear in the SYNC Mobile App menu.
My Android phone is connected, my app(s) are running, I restarted them, but I still cannot find any apps.	There is a Bluetooth bug on some older versions of the Android operating system that may cause apps that were found on your previous vehicle drive to not be found again if you have not turned off Bluetooth.	Reset the Bluetooth on your phone by turning it off and then turning Bluetooth back on. If you are in your vehicle, SYNC should be able to automatically re-connect to your phone if you press the Phone button.

# SYNC™

<b>AppLink issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
My iPhone phone is connected, my app is running, I restarted the app but I still cannot find it on SYNC.	The USB connection to SYNC may need to be reset.	Unplug the USB cable from the phone, wait a moment, and plug the USB cable back in to the phone. After a few seconds, the app should appear in SYNC's Mobile Apps Menu. If not, "Force Close" the application and restart it.
I have an Android phone. I found and started my media app on SYNC, but there is no sound or the sound is very low.	The Bluetooth volume on the phone may be low.	Try increasing the Bluetooth volume of the device by using the device's volume control buttons which are most often found on the side of the device.
I can only see some of the AppLink apps running on my phone listed in SYNC's Mobile Apps Menu.	Some Android devices have a limited number of Bluetooth ports apps can use to connect. If you have more AppLink apps on your phone than the number of available Bluetooth ports, you will not see all of your apps listed in SYNC's mobile apps menu.	Force close or uninstall the apps you do not want SYNC to find. If the app has a "Ford SYNC" setting, disable that setting in the app's settings menu on the phone.

<b>SYNC System Reset</b>
The SYNC system in your vehicle has System Reset feature that can be performed if the function of a SYNC feature is lost. This reset is intended to restore functionality and will not erase any information previously stored in the system (Such as paired devices, phonebook, call history, text messages, or user settings). To perform a System Reset, press and hold the Seek Up (>>) button while pressing and holding the Radio Power button. Release both buttons after 2-3 seconds. Please allow a few minutes for the reset to complete. After a few minutes has passed you can resume using the SYNC system.

# Ford Protect

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PROTECT YOURSELF FROM THE RISING COST OF VEHICLE REPAIRS WITH A FORD PROTECT EXTENDED SERVICE PLAN.

## **Ford Protect Extended Service Plans (U.S. Only)**

Ford Protect extended service plan means peace of mind. It's the extended service plan backed by Ford Motor Company, and provides more protection beyond the New Vehicle Limited Warranty coverage. When you visit your Ford Dealer, Insist on Ford Protect extended service plans!

## **Ford Protect Can Quickly Pay for Itself**

One trip to the Service Center could easily exceed the price of your Ford Protect extended service plan. With Ford Protect extended service plan you minimize your risk for unexpected repair bills and rising repair costs.

## **Up to 1,000+ Covered Vehicle Components**

There are four mechanical Ford Protect extended service plans with different levels of coverage. Ask your authorized dealer for details.

1. PremiumCARE - Our most comprehensive coverage. With over 1,000 covered components, this plan is so complete it's probably easier to list what's not covered.
2. ExtraCARE - Covers 113 components, and includes many high-tech items.
3. BaseCARE - Covers 84 components.
4. PowertrainCARE - Covers 29 critical components.

Ford Protect extended service plans are honored by all authorized Ford dealers in the U.S., Canada and Mexico.

That means you get:

- Reliable, quality service at any Ford or Lincoln dealership.
- Repairs performed by factory trained technicians, using genuine parts.

## **Rental Car Reimbursement**

### ***1st day Rental Benefit***

If you bring your car into your dealer for service, we'll give you a loaner to use for the day.

### ***Extended Rental Benefits***

If your vehicle is kept overnight for covered repairs, you are eligible for rental car coverage, including warranty repairs, and Field Service Actions.

## **Roadside Assistance**

Exclusive 24/7 roadside assistance, including:

- Towing, flat-tire change and battery jump starts.
- Out of fuel and lock-out assistance.
- Travel expense reimbursement for lodging, meals and rental car.
- Assistance for taxi, shuttle, rental car coverage or other transportation.

## **Transferable Coverage**

If you sell your vehicle before your Ford Protect extended service plan coverage expires, you can transfer any remaining coverage to the new owner. Which should give you and your potential buyer a little more peace of mind.

# Ford Protect

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## Less Cost to Properly Maintain Your Vehicle

Ford Protect extended service plan also offers a Premium Maintenance Plan that covers all scheduled maintenance, and selected wear items. The coverage is prepaid, so you never have to worry about the cost of your vehicle's maintenance.

Covered maintenance includes:

- Windshield wiper blades.
- Spark plugs.
- The clutch disc (if equipped).
- Brake pads and linings.
- Shock absorbers.
- Struts.
- Engine Belts.
- Engine coolant hoses, clamps and o-rings.
- Diesel exhaust fluid replenishment (if equipped).
- Cabin air filter replacement every 20,000 mi (32,000 km) (electric vehicles only).

## Interest Free Finance Options

Just a 5% down payment will provide you with an affordable, no interest, no fee payment program allowing you all the security and benefits Ford Protect extended service plan has to offer while paying over time. You are pre-approved with no credit check or hassles. To learn more, call our Ford Protect extended service plan specialists at 800-367-3377.

Ford Protect Extended Service Plan  
P.O. Box 321067  
Detroit, MI 48232

## Ford Protect Extended Service Plan (CANADA ONLY)

You can get more protection for your vehicle by purchasing a Ford Protect extended service plan. Ford Protect extended service plan is the only service contract backed by Ford Motor Company of Canada, Limited. Depending on the plan you purchase, Ford Protect extended service plan provides benefits such as:

- Rental reimbursement.
- Coverage for certain maintenance and wear items.
- Protection against repair costs after your New Vehicle Limited Warranty Coverage expires.
- Roadside Assistance benefits.

There are several Ford Protect extended service plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving needs, including reimbursement for towing and rental. When you purchase Ford Protect extended service plan, you receive added peace-of-mind protection throughout Canada, the United States and Mexico, provided by a network of participating authorized Ford Motor Company dealers.

**Note:** *Repairs performed outside of Canada and the United States are not eligible for Ford Protect extended service plan coverage.*

This information is subject to change. For more information; visit your local Ford of Canada dealer or [www.ford.ca](http://www.ford.ca) to find the Ford Protect extended service plan that is right for you.



# Scheduled Maintenance

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## GENERAL MAINTENANCE INFORMATION

### Why Maintain Your Vehicle?

Carefully following the maintenance schedule helps protect against major repair expenses resulting from neglect or inadequate maintenance and may help to increase the value of your vehicle when you sell or trade it. Keep all receipts for completed maintenance with your vehicle.

We have established regular maintenance intervals for your vehicle based upon rigorous testing. It is important that you have your vehicle serviced at the proper times. These intervals serve two purposes: one is to maintain the reliability of your vehicle and the second is to keep your cost of owning your vehicle down.

It is your responsibility to have all scheduled maintenance performed and to make sure that the materials used meet the specifications identified in this owner's manual. See **Capacities and Specifications** (page 275).

Failure to perform scheduled maintenance invalidates warranty coverage on parts affected by the lack of maintenance.

### Why Maintain Your Vehicle at Your Dealership?

#### Factory-Trained Technicians

Service technicians participate in extensive factory-sponsored certification training to help them become experts on the operation of your vehicle. Ask your dealership about the training and certification their technicians have received.

### Our Genuine Replacement Parts

Dealerships stock our genuine manufactured or our authorized re-manufactured replacement parts. These parts meet or exceed our specifications. Parts installed at your dealership carry a nationwide 24-month or unlimited mile (kilometer) parts and labor limited warranty.

If you do not use our authorized parts they may not meet our specifications and depending on the part, it could affect emissions compliance.

### Convenience

Many dealerships have extended evening and Saturday hours to make your service visit more convenient and they offer one stop shopping. They can perform any services that are required on your vehicle, from general maintenance to collision repairs.

**Note:** *Not all dealers have extended hours or body shops. Please contact your dealer for details.*

### Protecting Your Investment

Maintenance is an investment that pays dividends in the form of improved reliability, durability and resale value. To maintain the proper performance of your vehicle and its emission control systems, make sure you have scheduled maintenance performed at the designated intervals.

Your vehicle has an Intelligent Oil-Life Monitor system; a message appears in the information display at the proper oil change interval. This interval may be up to one year or 10,000 mi (16,000 km), hybrid vehicles may exceed 10,000 mi (16,000 km).

# Scheduled Maintenance

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When the oil change message appears in the information display, it is time for an oil change. Make sure you perform the oil change within two weeks or 500 mi (800 km) of the message appearing. Make sure you reset the Intelligent Oil-Life Monitor after each oil change. See **Oil Change Indicator Reset** (page 223).

If your information display resets prematurely or becomes inoperative, you should perform the oil change interval at six months or 5,000 mi (8,000 km) from your last oil change. Never exceed one year or 10,000 mi (16,000 km) between oil change intervals.

Your vehicle is very sophisticated and built with multiple, complex performance systems. Every manufacturer develops these systems using different specifications and performance features. That is why it is important to rely upon your dealership to properly diagnose and repair your vehicle.

We have recommended maintenance intervals for various parts and component systems based upon engineering testing. We rely upon this testing to determine the most appropriate mileage for replacement of oils and fluids to protect your vehicle at the lowest overall cost to you and recommends against maintenance schedules that deviate from the scheduled maintenance information.

We strongly recommend the use of only our genuine manufactured or our authorized re-manufactured replacement parts engineered for your vehicle.

## Additives and Chemicals

This owner's manual and our Workshop Manual list the recommended additives and chemicals for your vehicle. We do not recommend using chemicals or additives not approved by us as part of your vehicle's normal maintenance. Please consult your warranty information.

## Oils, Fluids and Flushing

In many cases, fluid discoloration is a normal operating characteristic and, by itself, does not necessarily indicate a concern or that the fluid needs to be changed. However, a qualified expert, such as the factory-trained technicians at your dealership, should inspect discolored fluids that also show signs of overheating or foreign material contamination immediately.

Make sure to change your vehicle's oils and fluids at the specified intervals or in conjunction with a repair. Flushing is a viable way to change fluid for many vehicle sub-systems during scheduled maintenance. It is critical that systems are flushed only with new fluid that is the same as that required to fill and operate the system or using our approved flushing chemical.

## Owner Checks and Services

Make sure you perform the following basic maintenance checks and inspections every month or at six-month intervals.

# Scheduled Maintenance

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<b>Check Every Month</b>
Engine oil level.
Function of all interior and exterior lights.
Tires (including spare) for wear and proper pressure.
Windshield washer fluid level.
Holes and slots in the tail pipe to make sure they are functional and clear of debris.

<b>Check Every Six Months</b>
Battery connections. Clean if necessary.
Body and door drain holes for obstructions. Clean if necessary.
Cooling system fluid level and coolant strength.
Door weatherstrips for wear. Lubricate if necessary.
Hinges, latches and outside locks for proper operation. Lubricate if necessary.
Parking brake for proper operation.
Seatbelts and seat latches for wear and function.
Safety warning lamps (brake, ABS, airbag and seatbelt) for operation.
Washer spray and wiper operation. Clean or replace blades as necessary.

## Multi-Point Inspection

In order to keep your vehicle running right, it is important to have the systems on your vehicle checked regularly. This can help identify potential issues and prevent major problems. We recommend having the following multi-point inspection performed at every scheduled maintenance interval to help make sure your vehicle keeps running great.

# Scheduled Maintenance

Multi-Point Inspection	
Accessory drive belt(s)	Hazard warning system operation
Battery performance	Horn operation
Engine air filter	Radiator, cooler, heater and air conditioning hoses
Exhaust system	Suspension components for leaks or damage
Exterior lamps operation	Steering and linkage
Fluid levels <sup>1</sup> ; fill if necessary	Tires (including spare) for wear and proper pressure <sup>2</sup>
For oil and fluid leaks	Windshield for cracks, chips or pits
Half-shaft dust boots	Washer spray and wiper operation

<sup>1</sup> Brake, coolant recovery reservoir, automatic transmission and window washer

<sup>2</sup> If your vehicle is equipped with a temporary mobility kit, check the tire sealant expiration Use By date on the canister. Replace as needed.

Be sure to ask your dealership service advisor or technician about the multi-point vehicle inspection. It is a comprehensive way to perform a thorough inspection of your vehicle. Your checklist gives you immediate feedback on the overall condition of your vehicle.

## NORMAL SCHEDULED MAINTENANCE

### Intelligent Oil-Life Monitor™

Your vehicle has an Intelligent Oil-Life Monitor that determines when you should change the engine oil based on how you use your vehicle. By using several important factors in its calculations, the monitor helps reduce the cost of owning your vehicle and reduces environmental waste at the same time.

This means you do not have to remember to change the oil on a mileage-based schedule. Your vehicle lets you know when an oil change is due by displaying a message in the information display.

The following table provides examples of vehicle use and its impact on oil change intervals. It is a guideline only. Actual oil change intervals depend on several factors and generally decrease with severity of use.

# Scheduled Maintenance

<b>When to Expect the OIL CHANGE REQUIRED Message</b>	
<b>Interval<sup>1</sup></b>	<b>Vehicle Use and Example</b>
7,500–10,000 mi (12,070–16,093 km)	<b>Normal</b>
	Normal commuting with highway driving No, or moderate, load or towing Flat to moderately hilly roads No extended idling
5,000–7,500 mi (8,046–12,070 km)	<b>Severe</b>
	Moderate to heavy load or towing Mountainous or off-road conditions Extended idling Extended hot or cold operation
3,000–5,000 mi (4,828–8,046 km)	<b>Extreme</b>
	Maximum load or towing Extreme hot or cold operation Extended engine idling

<sup>1</sup>Hybrid vehicles may achieve longer distances between oil changes, but do not exceed the 1 year maximum oil change interval. Remaining oil life can be accessed through the information display. See **Information Displays** (page 84).

## Normal Maintenance Intervals

<b>At Every Oil Change Interval as Indicated by the Information Display<sup>1</sup></b>
Change the engine oil and filter. <sup>2</sup>
Rotate the tires.
Perform a multi-point inspection, recommended.
Inspect the brake pads, rotors, hoses and parking brake.
Inspect the engine cooling system strength and hoses.
Inspect the exhaust system and heat shields.
Inspect the front axle.
Inspect the rear axle and U-joints.
Inspect the half-shaft boots.

# Scheduled Maintenance

## At Every Oil Change Interval as Indicated by the Information Display<sup>1</sup>

Inspect the steering linkage, ball joints, suspension and the tire-rod ends.

Inspect the tires, tire wear and measure the tread depth.

Inspect the wheels and related components for abnormal noise, wear, looseness or drag.

<sup>1</sup> Do not exceed one year or 12,500 mi (20,000 km) between service intervals.

<sup>2</sup> Reset the Intelligent Oil-Life Monitor after engine oil and filter changes. See **Engine Oil Check** (page 222).

## Brake Fluid Maintenance<sup>1</sup>

Every 3 Years

Change the brake fluid.<sup>2</sup>

<sup>1</sup> Perform this maintenance item every 3 years. Do not exceed the designated time for the interval.

<sup>2</sup> Brake fluid servicing requires special equipment available at your authorized dealer.

## Other Maintenance Items<sup>1</sup>

Every 20,000 mi  
(32,186 km)

Replace the cabin air filter.

Every 30,000 mi  
(48,280 km)

Replace the engine air filter.

At 200,000 mi  
(322,000 km)

Change the engine coolant and motor electronics coolant.<sup>2</sup>

Every 100,000 mi  
(160,000 km)

Replace the spark plugs.

Every 100,000 mi  
(160,000 km)

Inspect the accessory drive belt or belts.<sup>3</sup>

# Scheduled Maintenance

Other Maintenance Items <sup>1</sup>	
Every 150,000 mi (240,000 km)	Change the automatic transmission fluid.
	Replace the accessory drive belt or belts. <sup>4</sup>

<sup>1</sup> Perform these maintenance items within 3,000 mi (4,800 km) of the last engine oil and filter change. Do not exceed the designated distance for the interval.

<sup>2</sup> Initial replacement at 10 years or 200,000 mi (322,000 km), then every five years or 100,000 mi (160,000 km).

<sup>3</sup> After initial inspection, inspect every other oil change until replaced.

<sup>4</sup> If not replaced within the last 100,000 mi (160,000 km).

## SPECIAL OPERATING CONDITIONS SCHEDULED MAINTENANCE

If you operate your vehicle **primarily** in any of the following conditions, you need to perform extra maintenance as indicated. If you operate your vehicle **occasionally** under any of these conditions, it is not necessary to perform the extra maintenance. For specific recommendations, see your dealership service advisor or technician.

Perform the services shown in the following tables when specified or within 3,000 mi (4,800 km) of the message appearing in the information display prompting you to change your oil.

- **Example 1:** The message comes on at 28,751 mi (46,270 km). Perform the 30,000 mi (48,000 km) automatic transmission fluid replacement.
- **Example 2:** The message has **not** come on, but the odometer reads 30,000 mi (48,000 km) (for example, the Intelligent Oil-Life Monitor was reset at 25,000 mi (40,000 km)). Perform the engine air filter replacement.

Towing a Trailer or Using a Car-top Carrier	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Inspect front axle.
	Inspect rear axle and U-joints.
	Inspect half-shaft boots.
	See axle maintenance items under <b>Exceptions</b> .
Every 60,000 mi (96,000 km)	Replace spark plugs.

# Scheduled Maintenance

<b>Extensive Idling or Low-speed Driving for Long Distances, as in Heavy Commercial Use</b>	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Replace cabin air filter.
	Replace engine air filter.
60,000 mi (96,000 km)	Replace spark plugs.

<b>Extended Hot and Cold Climate Operation</b>	
5,000 mi (8,000 km)	Change engine oil and filter. <sup>1</sup>

<sup>1</sup>Hot Climates only

<b>Operating in Dusty or Sandy Conditions (Such as Unpaved or Dusty Roads)</b>	
Inspect frequently, service as required	Replace cabin air filter.
	Replace engine air filter.
5,000 mi (8,000 km)	Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
	Rotate tires, inspect tires for wear and measure tread depth.
Every 5,000 mi (8,000 km) or six months	Change engine oil and filter. <sup>1</sup>
	Perform multi-point inspection.

<sup>1</sup>Reset your Intelligent Oil-Life Monitor after engine oil and filter changes. See **Oil Change Indicator Reset** (page 223).

<b>Exclusive Use of E85 (Flex Fuel Vehicles Only)</b>	
Every oil change	If ran exclusively on E85, fill the fuel tank full with regular unleaded fuel.



# Scheduled Maintenance

<b>Driver Training/EVOC</b>	
As required	Replace engine oil and filter as indicated by the information display and perform services listed in the Extreme Usage Scheduled Maintenance chart.
	Inspect brake pads, rotors, calipers hoses, and service as required.
Inspect vehicle every day prior to starting training	Inspect engine oil level.
	Set tire pressure. Refer to driver door placard for cold tire pressure information.
	Inspect tire quality for wear.
	Set wheel lug nut torque. The cold wheel lug nut torque is 150 lb.ft (204 Nm). If wheels are torqued while they are hot (after 15 minutes of EVOC driving), torque may be checked to hot wheel lug nut torque of 70 lb.ft (95 Nm).
	Proper functioning of safety devices (seat belts, no air bag lights, etc.)
25 hours of training use	Front differential/axle fluid.
100 hours of training use	Rear differential/axle fluid.
Annually	Change transmission and transfer case fluids.

**Note:** Follow base owner guide direction for 1,000-mile vehicle break-in prior to using vehicle for training purposes.

**Note:** Incorporate vehicle cool-down after hard driving.

**Note:** Perform Training / EVOC service according to the Extreme Usage Scheduled Maintenance chart.

**Note:** Use Police Interceptor part numbers for replacement parts.

## Engine Idle Hour Meter

Your vehicle may have an idle meter to indicate how much time the vehicle has been sitting in park (P) or neutral (N). The meter is incorporated with the vehicle odometer. Depressing the odometer-reset button once displays the trip odometer (miles [kilometers] following by a "T" for trip odometer); depressing the odometer-reset button a second time displays the idle meter (hours following by an "H" for hours). The idle meter only accumulates time while the vehicle is in park (P) or neutral (N). Displayed time is cumulative for the vehicle and cannot be reset to zero. Police vehicles often

# Scheduled Maintenance

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experience long periods of idling, during which engine oil continues to break down but distance is not accumulated on the odometer. Engine Idle Hours have been incorporated into the Intelligent Oil-Life Monitor.

## Exceptions

There are several exceptions to the Normal Schedule:

### **Axle and Transfer Case maintenance:**

The Transfer case, front and rear axles in your vehicle do not require an any normal scheduled maintenance. Vehicles are electrically monitored and notify the driver required service by displaying a message in the information display. The transfer case, front and rear axles are more likely to require a fluid change if the vehicle has experienced extended periods of extreme/severe duty cycle driving. Changing or checking the transfer case, front and/or rear axle lubricant is not necessary unless the unit has been submerged in water, shows signs of leakage, a message indicating required service displays, or the vehicle has been used under special operating conditions such as Driver Training/EVOC. Contact your authorized dealer for service.

**California fuel filter replacement:** If you register your vehicle in California, the California Air Resources Board has determined that the failure to perform this maintenance item does not nullify the emission warranty or limit recall liability before the completion of your vehicle's useful life. We however, urge you to have all recommended maintenance services performed at the specified intervals and to record all vehicle service.

### **Hot climate oil change intervals:**

Vehicles operating in the Middle East, North Africa, Sub-Saharan Africa or locations with similar climates using an American Petroleum Institute (API) Certified for Gasoline Engines (Certification mark) oil of SM or SN quality, the normal oil change interval is 5,000 mi (8,000 km).

If the available API SM or SN oils are not available, then the oil change interval is 3,000 mi (4,800 km).

### **Engine air filter and cabin air filter**

**replacement:** The life of the engine air filter and cabin air filter is dependent on exposure to dusty and dirty conditions. Vehicles operated in these conditions require frequent inspection and replacement of the engine air filter and cabin air filter.

# Decommissioning the Vehicle

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## DECOMMISSIONING REQUIREMENTS

We have implemented a decommissioning process of manufacturer-provided police features. It is the responsibility of the owner to complete the decommissioning of the vehicle in compliance with any state regulations prior to initial sale to the public sector.

### Vehicle Sealing of Aftermarket Equipment

When customized equipment has been removed from your vehicle, body panels and seals may be compromised. Thoroughly inspect your vehicle for any signs where the equipment has been removed, for example holes and damage to body seals.

Any items that remain on your vehicle must be inspected and any sign of damage repaired immediately. Failure to follow this instruction may result in water and exhaust fumes entering the passenger compartment. See your authorized dealer for more information and direction regarding proper sealing procedures.

### Dark Car

Authorized personnel must use a diagnostic scan tool to decommission the Dark Car feature.

### Integrated Computer Screen

Remove the audio video extender (AVX) box from the cargo area prior to initial sale to the public sector.

### OBD-II Split Connector

Remove the OBD-II split connector cable prior to initial sale to the public sector.

### Police Engine Idle

Authorized personnel must use a diagnostic scan tool to decommission the Police Engine Idle feature.

### Police Perimeter Alert

Authorized personnel must use a diagnostic scan tool to decommission the Police Perimeter Alert feature.

### Pre-Collision Assist Disable

Authorized personnel must use a diagnostic scan tool to decommission the Pre-Collision Assist Disable feature.

### Rear Camera On Demand

Authorized personnel must use a diagnostic scan tool to decommission the Rear Camera on Demand feature.

# Customer Information

## RADIO FREQUENCY CERTIFICATION LABELS

### Blind Spot Information System Sensors

#### Argentina



#### Brazil



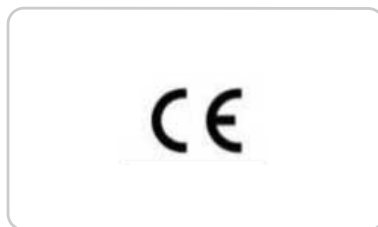
#### China

CMIIT ID: 2015DJ1610

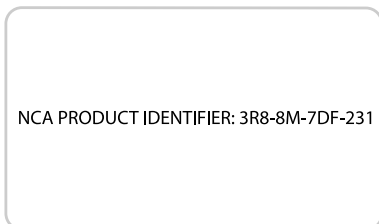
#### Djibouti



#### European Union EU



#### Ghana



# Customer Information

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## Jamaica

This product has been Type Approved  
by Jamaica: SMA - SRR3-B.

## Malaysia



RALM/24A/0715/S(15-2272)

## Mauritania

AGREE PAR L'ANEMAURITANIE  
Numéro d'agrément: 0257/ARE/2015  
Date d'agrément: 02/03/2015

## Moldova



## Pakistan



## Paraguay



# Customer Information

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## Serbia



W011 18

## South Korea



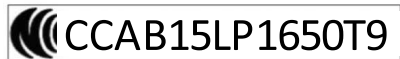
MSIP-CRM-8DC-SRR3B

## Singapore

Complies with IMDA Standards

DA 00461

## Taiwan, China



## South Africa

TA-2015/444  
APPROVED



## Ukraine



# Customer Information

## United Arab Emirates (U.A.E.)

TRA  
REGISTERED No:  
ER62934/18

DEALER No:  
DA40068

## Vietnam



## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: OAYSRR3B

IC: 4135A-SRR3B

IC: RSS-310 compliant, Per FCC Test report no.: 1-8707-14-01-03

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia



## Body Control Module

## Argentina



# Customer Information

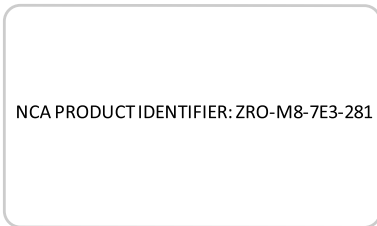
## Brazil



## Moldova



## Ghana



## Morocco



## Jamaica

This product has been Type Approved by Jamaica: SMA - M3NA2C766336.

## Paraguay



2019-01-I-000076



# Customer Information

## Serbia



U011 20

## Ukraine



UA.TR.028

## Singapore

Complies with IMDA Standards

DA 00461

## United Arab Emirates (U.A.E.)

TRA  
REGISTERED No: ER68566/19  
DEALER No: DA37380/15

## South Africa



## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: M3NA2C766336

IC: 7812A-A2C766336

# Customer Information

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Vietnam



## Zambia



## Keys and Remote Controls

### Argentina

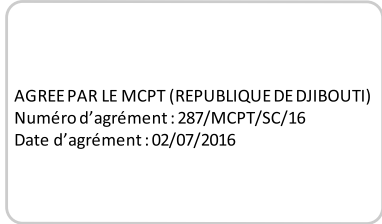


# Customer Information

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## Djibouti



AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 289/MCPT/SC/116  
Date d'agrément : 02/07/2016

## Ghana

NCA APPROVED: 2R9-8M-7E0-x94

## Brazil



**NCA APPROVED: 2R9-1H-7E0-01A**

## Jamaica



This product has been Type Approved  
by Jamaica: SMA – A2C97102000

# Customer Information

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F17000176

**This product has been Type Approved  
by Jamaica: SMA – A2C93142100**

**Mauritania**

AGREE PAR L'ANE MAURITANIE

Numéro d'agrément : 0324/ARE/2016

Date d'agrément : 07/03/2016

This product has been Type Approved by Jamaica: SMA – M3N-A2C931426

AGREE PAR L'ANE MAURITANIE

Numéro d'agrément : 0323/ARE/2016

Date d'agrément : 07/03/2016

This product has been Type Approved by Jamaica: SMA – M3N-A2C931423

**Moldova**



**Malaysia**



# Customer Information

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 12432 ANRT 2016  
Date d'agrément : 31/08/2016

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 12433 ANRT 2016  
Date d'agrément : 31/08/2016

## Paraguay



NR: 2016-9-I-000222  
NR: 2016-9-I-000220  
NR: 2016-9-I-000223  
NR: 2017-10-I-0334

## Serbia



И011 16

## Pakistan

Pakistan Telecommunication Authority



Approved by PTA 2016

# Customer Information

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## Singapore

Complies with IMDA Standards

DA 00461

## South Korea



MSIP-CRM-TAL-A2C97102000

## South Africa



## Taiwan, China



## Customer Information

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### Ukraine




TRA  
REGISTERED NO: ER49357/16  
DEALER NO: DA37380/15

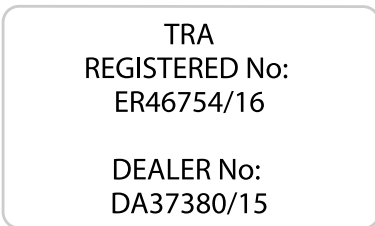
### United Arab Emirates (U.A.E.)

TRA  
REGISTERED No: ER47690/16  
DEALER No: DA37380/15

### Canada and United States of America

 **WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: M3N-A2C931426  
FCC ID: M3N-A2C931423  
FCC ID: CWTWB1U0009  
FCC ID: N5F-A08TAA  
IC: 7812A-A2C931426  
IC: 7812A-A2C913423  
IC: 1788A-FWB1U0009  
IC: 3248A-A08TAA



## Customer Information

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### Vietnam



### Zambia



### Passive Anti-Theft System

### Argentina



### Brazil



0106-14-03199

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.



# Customer Information

## Canada and United States of America



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: OUC11545917

IC: 850K-11545917

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément: 243/MCPT/SC/16  
Date d'agrément: 23/05/16

## Ghana

NCA APPROVED: NCA/TA/16/22

## Indonesia

SERTIFIKAT NOMOR : 44714/SDPPI/2016  
PLG ID: 4941

## Jamaica

This product has been Type Approved by Jamaica: SMA-OUC11545917

E274067

# Customer Information

## Malaysia



CIDF18000209

## Mauritania

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément: 0231/ARE/2014  
Date d'agrément: 14/11/2014

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 8922 ANRT 2014  
Date d'agrément: 04/02/2014

## Pakistan



## Moldova



## Paraguay

NR: 2017-09-10000292



# Customer Information

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## Serbia



U011 16

## South Korea



MSIP-RRM-OAC-OUC11541917

## Syria

SyTRA  
REGISTERED No:  
1510/4NK

## Singapore

Complies with IMDA Standards

DA 00461

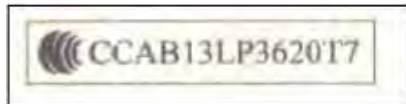
## South Africa

TA-2013/1617

APPROVED



## Taiwan, China



# Customer Information

## Ukraine

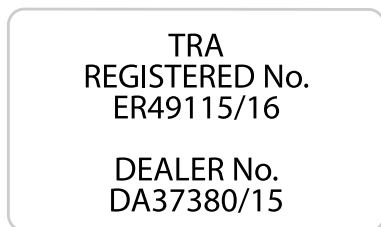


## Radio Transceiver Module

## Argentina



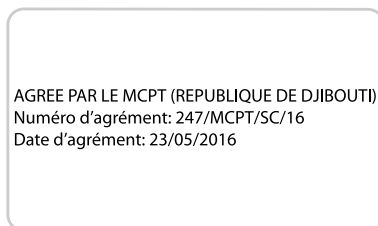
## United Arab Emirates (U.A.E.)



## China

CMIIT ID: 2016DJ0249

## Djibouti



## Vietnam



E272192

# Customer Information

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AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 286/MCPT/SC/16  
Date d'agrément : 02/07/16

This product has been Type Approved by Jamaica:  
SMA – F03-AM315RX

E272193

## Ghana

This product has been Type Approved by  
Jamaica: SMA - FO4-AM902TRB.

NCA APPROVED: NCA/TA/16/24

## Mauritania

## Indonesia

SERTIFIKAT NOMOR : 44813/SDPPI/2016  
PLG ID: 4940

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0233/ARE/2014  
Date d'agrément : 14/11/2014

## Jamaica

This product has been Type Approved by  
Jamaica: SMA – FO3-AM433RX

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0325/ARE/2016  
Date d'agrément : 07/03/2016

# Customer Information

## Moldova



## Pakistan



## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 8921 ANRT 2014  
Date d'agrément : 04/02/2014

## Paraguay



AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 11489 ANRT 2016  
Date d'agrément : 26/02/2016

NR: 2016-9-I-00244

## Serbia



# Customer Information

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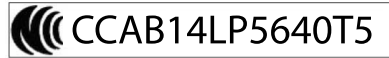
## South Africa



## Taiwan



## South Korea



KCC-REM-DDG-FO3

## Syria

SyTRA  
REGISTERED No:  
1508/4NK

## Ukraine



# Customer Information

## United Arab Emirates (U.A.E.)

TRA REGISTERED No.ER49062/16  
DEALER No: DA37380/15

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia

TRA  
REGISTERED  
No: ER46324/16

DEALER No:  
DA37380/15



## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: LTQFO3AM315RX

FCC ID: L2C0062TR

IC: 3659A-FO3AM315RX

IC: 3659A-FO4AM902TRX

## SYNC

## Argentina





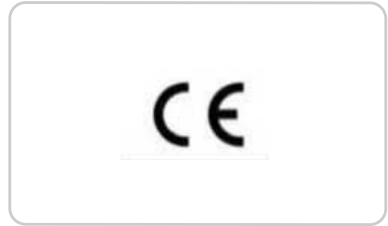
# Customer Information

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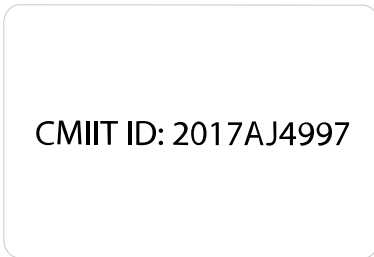
## Brazil



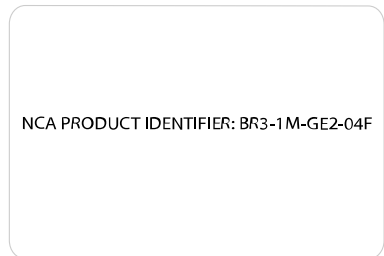
## European Union EU



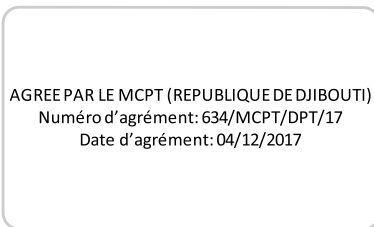
## China



## Ghana



## Djibouti



## Jamaica

This product has been Type Approved  
by Jamaica: SMA - FG-185-SG32-MH.

# Customer Information

## Malaysia



RBAB/57H/0318/S(18-0624)

## Mauritania

AGREE PAR L'ANEMAURITANIE  
Numéro d'agrément: 0442/ARE/2017  
Date d'agrément: 21/11/2017

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 15193 ANRT 2017  
Date d'agrément: 22/11/2017

## Pakistan



Date of Issuance: 11/30/2017

## Moldova



## Paraguay



NR: 2017-12-I-0000413

# Customer Information

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## Serbia

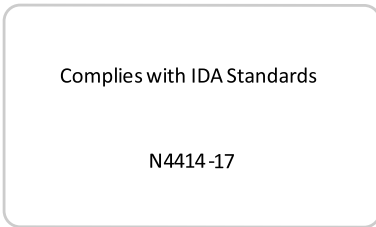


## South Korea

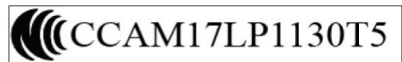


MSIP-CMM-pAs-FA-170-BCAR-HS

## Singapore



## Taiwan



## South Africa

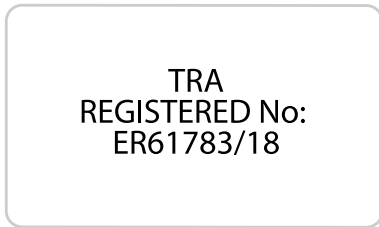


## Ukraine



# Customer Information

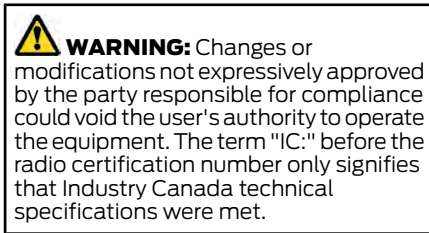
## United Arab Emirates (U.A.E.)



## Vietnam



## United States and Canada



FCC ID: ACJ-FG-185-SG32MH

IC: 216B-FG185SG32MH

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia



## Telematics Control Unit

### China

CMIIT ID: 3019CP0600

CMIIT ID: 2019CP0601

# Customer Information

## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: LHJ-FB40ND1

IC: 2807E-FB40ND1

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Tire Pressure Monitoring System Sensors - Vehicles With: 315 MHz Sensors

### Brazil



05062-18-08001

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

## Mexico

IFT: RCPSCAG18-1886

"La operación de este equipo está sujeta a las siguientes dos condiciones:

- (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y
- (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada."

## Nigeria

Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

## Singapore

Complies with IMDA Standards

DA 105282

# Customer Information

## Taiwan

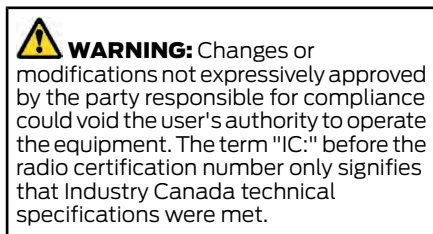


## Tire Pressure Monitoring System Sensors - Vehicles With: 433 MHz Sensors

## Argentina



## United States and Canada



FCC ID: MRXAG2SM3

IC: 2546A-AG2SM3

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Brazil



# Customer Information

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément: 045/DDTIC/2018  
Date d'agrément: 06/07/2018

## Jordan

Model: AG2SM4  
Manufacturer: Schrader Electronics Ltd  
Type Approval No: TRC/LPD/2018/161  
Equipment Type: Low Power Device (LPD)

## European Union EU

Hereby, Schrader Electronics Ltd, declares that the radio equipment type AG2SM4 is in compliance with Directive 2014/53/EU.  
The full text of the EU declaration of conformity is available at the following internet address:  
[http://www.tomseuroshop.com/documents/declaration\\_cofc/erm18a](http://www.tomseuroshop.com/documents/declaration_cofc/erm18a)  
F=433.92MHz  
P=10mW (e.i.r.p)  
Schrader Electronics Ltd, 11 Technology Park, Belfast Road, Antrim BT41 1QS, Northern Ireland United Kingdom

## Mauritania

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément: 0489/ARE/2018  
Date d'agrément: 04/25/2018

## Ghana

NCA APPROVED: BR3-1M-GE2-X74

## Mexico

IFT: RLVSCAG18-1012  
"La operación de este equipo está sujeta a las siguientes dos condiciones:  
(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y  
(2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada."

# Customer Information

## Moldova



## Oman

OMAN TRA  
R/5505/18  
D172249

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 16506 ANRT 2018  
Date d'agrément: 09/05/2018

## Pakistan

Pakistan Telecommunication Authority



Approved by PTA 2016

## Nigeria

Connection and use of this  
communications  
equipment is permitted by the Nigerian  
Communications Commission

## Paraguay



NR: 2018-06-I-000224



# Customer Information

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## Philippines



## Singapore

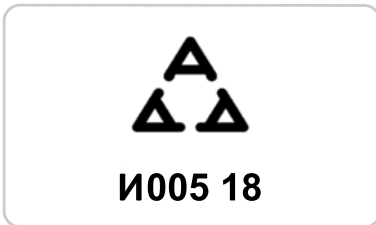
Complies with IMDA Standards

DA 107968

## Russia



## Serbia



## South Africa



## South Korea




R-CRM-SRD-AG2SM4

# Customer Information

## Taiwan



## United States and Canada

 **WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: 2546A- AG2SM4

IC: MRXAG2SM4

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

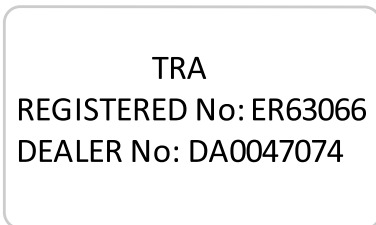
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Ukraine



## Vietnam

## United Arab Emirates (U.A.E.)



## Customer Information

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### Zambia



# Appendices

## ELECTROMAGNETIC COMPATIBILITY



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.



**WARNING:** Do not fasten antenna cables to vehicle wiring, fuel pipes and brake pipes.

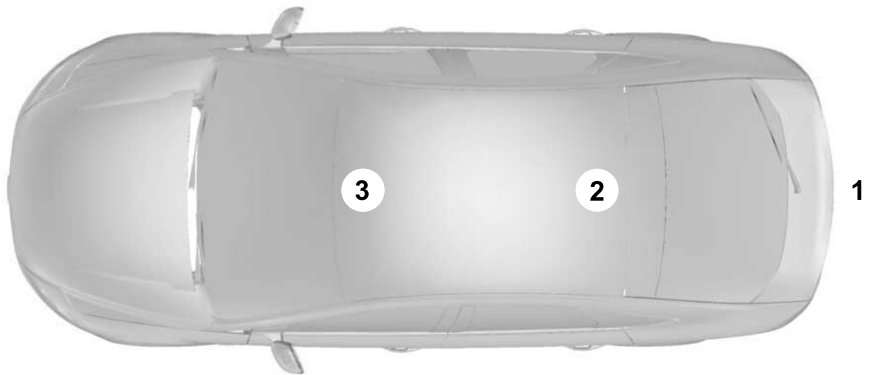


**WARNING:** Keep antenna and power cables at least 4 in (10 cm) from any electronic modules and airbags.

**Note:** We test and certify your vehicle to meet electromagnetic compatibility legislation. It is your responsibility to make sure that any equipment an authorized dealer installs on your vehicle complies with applicable local legislation and other requirements. Installation of some aftermarket electronic devices could degrade the performance of vehicle functions, which use radio frequency signals such as broadcast radio receiver, tire pressure monitoring system, push button start, Bluetooth connectivity or satellite navigation.

**Note:** Any radio frequency transmitter equipment in your vehicle (such as cellular telephones and amateur radio transmitters) must keep to the parameters in the following illustrations and table. We do not provide any other special provisions or conditions for installations or use.

### Car/SUV



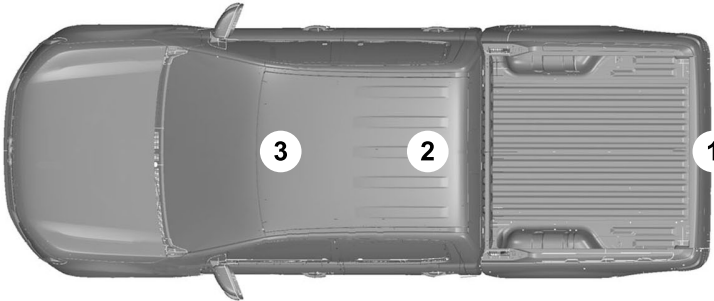
# Appendices

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## Van



## Truck



# Appendices

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<b>Frequency Band MHz</b>	<b>Maximum output power Watt (Peak RMS)</b>	<b>Antenna Positions</b>
1-30	50	1
50-54	50	2, 3
68-88	50	2, 3
142-176	50	2, 3
380-512	50	2, 3
806-870	10	2, 3

# Appendices

## END USER LICENSE AGREEMENT

### VEHICLE SOFTWARE END USER LICENSE AGREEMENT (EULA)

- You ("You" or "Your" as applicable) have acquired a vehicle having several devices, including SYNC ® and various control modules, ("DEVICES") that include software licensed or owned by Ford Motor Company and its affiliates ("FORD MOTOR COMPANY"). Those software products of FORD MOTOR COMPANY origin, as well as associated media, printed materials, and "online" or electronic documentation ("SOFTWARE") are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.
- The SOFTWARE may interface with and/or communicate with, or may be later upgraded to interface with and/or communicate with additional software and/or systems provided by FORD MOTOR COMPANY.

**IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT ("EULA") DO NOT USE THE DEVICES OR COPY THE SOFTWARE. ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE ON THE DEVICES, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).**

**GRANT OF SOFTWARE LICENSE:** This EULA grants you the following license:

- You may use the SOFTWARE as installed on the DEVICES and as otherwise interfacing with systems and/or services provide by or through FORD MOTOR COMPANY or its third party software and service providers.

## Description of Other Rights and Limitations

- **Speech Recognition:** If the SOFTWARE includes speech recognition component(s), you should understand that speech recognition is an inherently statistical process and that recognition errors are inherent in the process. Neither FORD MOTOR COMPANY nor its suppliers shall be liable for any damages arising out of errors in the speech recognition process. It is your responsibility to monitor any speech recognition functions included in the system.
- **Limitations on Reverse Engineering, Decompilation and Disassembly:** You may not reverse engineer, decompile, translate, disassemble or attempt to discover any source code or underlying ideas or algorithms of the SOFTWARE nor permit others to reverse engineer, decompile or disassemble the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.
- **Limitations on Distributing, Copying, Modifying and Creating Derivative Works:** You may not distribute, copy, make modifications to or create derivative works based on the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.

# Appendices

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- **Single EULA:** The end user documentation for the DEVICES and related systems and services may contain multiple EULAs, such as multiple translations and/or multiple media versions (e.g., in the user documentation and in the software). Even if you receive multiple EULAs, you are licensed to use only one (1) copy of the SOFTWARE.
- **SOFTWARE Transfer:** You may permanently transfer your rights under this EULA only as part of a sale or transfer of the DEVICES, provided you retain no copies, you transfer all of the SOFTWARE (including all component parts, the media and printed materials, any upgrades, and, if applicable, the Certificate(s) of Authenticity), and the recipient agrees to the terms of this EULA. If the SOFTWARE is an upgrade, any transfer must include all prior versions of the SOFTWARE.
- **Termination:** Without prejudice to any other rights, FORD MOTOR COMPANY may terminate this EULA if you fail to comply with the terms and conditions of this EULA.
- **Internet-Based Services Components:** The SOFTWARE may contain components that enable and facilitate the use of certain Internet-based services. You acknowledge and agree that FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent may automatically check the version of the SOFTWARE and/or its components that you are utilizing and may provide upgrades or supplements to the SOFTWARE that may be automatically downloaded to your DEVICES.
- **Additional Software/Services:** The SOFTWARE may permit FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent to provide or make available to you SOFTWARE updates, supplements, add-on components, or Internet-based services components of the SOFTWARE after the date you obtain your initial copy of the SOFTWARE ("Supplemental Components".) SOFTWARE updates may cause you to incur additional charges from your wireless service provider. If FORD MOTOR COMPANY or third party software and services suppliers provide or make available to you Supplemental Components and no other EULA terms are provided along with the Supplemental Components, then the terms of this EULA shall apply. FORD MOTOR COMPANY, its affiliates and/or its designated agent reserve the right to discontinue without liability any Internet-based services provided to you or made available to you through the use of the SOFTWARE.



# Appendices

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- **Links to Third Party Sites:** The SOFTWARE may provide you with the ability to link to third party sites. The third party sites are not under the control of FORD MOTOR COMPANY, its affiliates and/or its designated agent. Neither FORD MOTOR COMPANY nor its affiliates nor its designated agent are responsible for (i) the contents of any third party sites, any links contained in third party sites, or any changes or updates to third party sites, or (ii) webcasting or any other form of transmission received from any third party sites. If the SOFTWARE provides links to third party sites, those links are provided to you only as a convenience, and the inclusion of any link does not imply an endorsement of the third party site by FORD MOTOR COMPANY, its affiliates and/or its designated agent.
- **Obligation to Drive Responsibly:** You recognize your obligation to drive responsibly and keep attention on the road. You will read and abide with the DEVICES operating instructions particularly as they pertain to safety and you agree to assume any risk associated with the use of the DEVICES.

## **UPGRADES AND RECOVERY MEDIA:**

If the SOFTWARE is provided by FORD MOTOR COMPANY separate from the DEVICES on media such as a ROM chip, CD ROM disk(s) or via web download or other means, and is labeled "For Upgrade Purposes Only" or "For Recovery Purposes Only" you may install one (1) copy of such SOFTWARE onto the DEVICES as a replacement copy for the existing SOFTWARE, and use it in accordance with this EULA, including any additional EULA terms accompanying the upgrade SOFTWARE.

## **INTELLECTUAL PROPERTY RIGHTS:**

All title and intellectual property rights in and to the SOFTWARE (including but not limited to any images, photographs, animations, video, audio, music, text and "applets" incorporated into the SOFTWARE), the accompanying printed materials, and any copies of the SOFTWARE, are owned by FORD MOTOR COMPANY, or its affiliates or suppliers. The SOFTWARE is licensed, not sold. You may not copy the printed materials accompanying the SOFTWARE. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content outside its intended use. All rights not specifically granted under this EULA are reserved by FORD MOTOR COMPANY, its affiliates, and third party software and service providers and suppliers. Use of any on-line services which may be accessed through the SOFTWARE may be governed by the respective terms of use relating to such services. If this SOFTWARE contains documentation that is provided only in electronic form, you may print one copy of such electronic documentation.

**EXPORT RESTRICTIONS:** You acknowledge that the SOFTWARE is subject to U.S. and European Union export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments.

# Appendices

**TRADEMARKS:** This EULA does not grant you any rights in connection with any trademarks or service marks of FORD MOTOR COMPANY, its affiliates, and third party software and service providers.

**PRODUCT SUPPORT:** Please refer to FORD MOTOR COMPANY instructions provided in the documentation for the DEVICES product support, such as the vehicle owner guide.

Should you have any questions concerning this EULA, or if you desire to contact FORD MOTOR COMPANY for any other reason, please refer to the address provided in the documentation for the DEVICES.

**No Liability for Certain Damages:** EXCEPT AS PROHIBITED BY LAW, FORD MOTOR COMPANY, ANY THIRD PARTY SOFTWARE OR SERVICES SUPPLIERS, AND THEIR AFFILIATES SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. THERE ARE NO WARRANTIES OTHER THAN THOSE THAT MAY BE EXPRESSLY PROVIDED FOR YOUR NEW VEHICLE.

## **SYNC® Automotive Important Safety Information Read and follow instructions:**

- Before using your SYNC® system, read and follow all instructions and safety information provided in this end user manual ("Owner Guide".) Not following precautions found in the Owner Guide can lead to an accident or other serious injuries.

## General Operation

- **Voice Command Control:** Certain functions within the SYNC® system may be accomplished using voice commands. Using voice commands while driving helps you to operate the system without removing your hands from the wheel or eyes from the road.
- **Prolonged Views of Screen:** Do not access any function requiring a prolonged view of the screen while you are driving. Pull over in a safe and legal manner before attempting to access a function of the system requiring prolonged attention.
- **Volume Setting:** Do not raise the volume excessively. Keep the volume at a level where you can still hear outside traffic and emergency signals while driving. Driving while unable to hear these sounds could cause an accident.
- **Navigation Features:** Any navigation features included in the system are intended to provide turn by turn instructions to get you to a desired destination. Please make certain all persons using this system carefully read and follow instructions and safety information fully.
- **Distraction Hazard:** Any navigation features may require manual (non-verbal) setup. Attempting to perform such set-up or insert data while driving can distract your attention and could cause an accident or other serious injury. Stop the vehicle in a safe and legal manner before attempting these operations.
- **Let Your Judgment Prevail:** Any navigation features are provided only as an aid. Make your driving decisions based on your observations of local conditions and existing traffic regulations. Any such feature is not a

## Appendices

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substitute for your personal judgment. Any route suggestions made by this system should never replace any local traffic regulations or your personal judgment or knowledge of safe driving practices.

- **Route Safety:** Do not follow the route suggestions if doing so would result in an unsafe or illegal maneuver, if you would be placed in an unsafe situation, or if you would be directed into an area that you consider unsafe. The driver is ultimately responsible for the safe operation of the vehicle and therefore, must evaluate whether it is safe to follow the suggested directions.
- **Potential Map Inaccuracy:** Maps used by this system may be inaccurate because of changes in roads, traffic controls or driving conditions. Always use good judgment and common sense when following the suggested routes.
- **Emergency Services:** Do not rely on any navigation features included in the system to route you to emergency services. Ask local authorities or an emergency services operator for these locations. Not all emergency services such as police, fire stations, hospitals and clinics are likely to be contained in the map database for such navigation features.

Your Responsibilities and Assumptions of Risk

- You agree to each of the following: (a) Any use of the SOFTWARE while driving an automobile or other vehicle in violation of applicable law or otherwise driving in an unsafe manner presents a significant risk of distracted driving and should not be attempted under any circumstances; (b) Use of the SOFTWARE at excessive volume poses a significant risk of hearing damage and should not be attempted under any circumstances; (c) The SOFTWARE may not be compatible with new or different versions of an operating system, third party software, or third party services, and the SOFTWARE may potentially cause a critical failure of an operating system, third party software, or third party service. (d) Any third party service accessed by or third party software used with the SOFTWARE (i) may charge an additional fee for access, (ii) may not work correctly, on an uninterrupted basis, or error free, (iii) may change streaming formats or discontinue operation, (iv) may contain adult, profane or offensive content; and (v) may contain inaccurate, false or misleading traffic, weather, financial or safety information or other content; and (e) Use of the SOFTWARE may cause you to incur additional charges from your wireless service provider (WSP) and any data or minute calculators that may be included in the software program are for reference only, are not warranted in any way and should not be relied upon in anyway.
- When using the SOFTWARE, you agree to be responsible for and assume the entire risk to the items set forth in Section (a) – (e) above.

# Appendices

## Disclaimer of Warranty

YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT USE OF THE DEVICES AND SOFTWARE IS AT YOUR SOLE RISK AND THAT THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, COMPATIBILITY, ACCURACY AND EFFORT IS WITH YOU. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE SOFTWARE AND ANY THIRD PARTY SOFTWARE OR THIRD-PARTY SERVICES ARE PROVIDED "AS IS" AND "AS AVAILABLE", WITH ALL FAULTS AND WITHOUT WARRANTY OF ANY KIND, AND FORD MOTOR COMPANY HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH RESPECT TO THE SOFTWARE, THIRD PARTY SOFTWARE, AND THIRD-PARTY SERVICES, EITHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY, OF SATISFACTORY QUALITY, OF FITNESS FOR AN PARTICULAR PURPOSE, OF ACCURACY, OF QUIET ENJOYMENT, AND NON-INFRINGEMENT OF THIRD-PARTY RIGHTS. FORD MOTOR COMPANY DOES NOT WARRANT (a) AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES, (b) THAT THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL MEET YOUR REQUIREMENTS, (c) THAT THE OPERATION OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE UNINTERRUPTED OR ERROR-FREE, (d) OR THAT DEFECTS IN THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY FORD MOTOR COMPANY OR ITS AUTHORIZED REPRESENTATIVE SHALL

CREATE A WARRANTY. SHOULD THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. SOME JURISDICTIONS DO NOT ALLOW THE DISCLAIMER OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO THE ABOVE DISCLAIMER MAY NOT FULLY APPLY TO YOU. THE SOLE WARRANTY PROVIDED BY FORD MOTOR COMPANY SHALL BE FOUND IN THE WARRANTY INFORMATION INCLUDING WITH YOUR OWNER GUIDE. TO THE EXTENT THAT THERE IS ANY CONFLICT BETWEEN THE TERMS OF THIS SECTION AND THE WARRANTY BOOKLET, THE WARRANTY BOOKLET SHALL CONTROL.

## Applicable Law, Venue, Jurisdiction

- The laws of the State of Michigan govern this EULA and Your use of the SOFTWARE. Your use of the SOFTWARE may also be subject to other local, state, national, or international laws. Any litigation arising out of or related to this EULA shall be brought and maintained exclusively in a court of the State of Michigan located in Wayne County or in the United States District Court for the Eastern District of Michigan. You hereby consent to submit to the personal jurisdiction of a court in the State of Michigan located in Wayne County and the United States District Court for the Eastern District of Michigan for any dispute arising out of or relating to this EULA.

# Appendices

## **Binding Arbitration and Class Action Waiver**

**(a) Application.** This Section applies to any dispute EXCEPT IT DOES NOT INCLUDE A DISPUTE RELATING TO COPYRIGHT INFRINGEMENT, OR TO THE ENFORCEMENT OR VALIDITY OF YOUR, FORD MOTOR COMPANY, OR ANY OF FORD MOTOR COMPANY'S LICENSORS' INTELLECTUAL PROPERTY RIGHTS. Dispute means any dispute, action, or other controversy between You and FORD MOTOR COMPANY, other than the exceptions listed above, concerning the SOFTWARE (including its price) or this EULA, whether in contract, warranty, tort, statute, regulation, ordinance, or any other legal or equitable basis.

**(b) Notice of Dispute.** In the event of a Dispute, You or FORD MOTOR COMPANY must give the other a "Notice of Dispute", which is a written statement of the name, address, and contact information of the party giving it, the facts giving rise to the dispute, and the relief requested. You and FORD MOTOR COMPANY will attempt to resolve any dispute through informal negotiation within 60 days from the date the Notice of Dispute is sent. After 60 days, You or FORD MOTOR COMPANY may commence arbitration.

**(c) Small claims court.** You may also litigate any dispute in small claims court in your county of residence or FORD MOTOR COMPANY'S principal place of business, if the dispute meets all requirements to be heard in the small claims court. You may litigate in small claims court whether or not You negotiated informally first.

**(d) Binding arbitration.** If You and FORD MOTOR COMPANY, do not resolve any dispute by informal negotiation or in small claims court, any other effort to resolve the dispute will be conducted exclusively by binding arbitration. You are giving up

the right to litigate (or participate in as a party or class member) all disputes in court before a judge or jury. Instead, all disputes will be resolved before a neutral arbitrator, whose decision will be final except for a limited right of appeal under the Federal Arbitration Act. Any court with jurisdiction over the parties may enforce the arbitrator's award.

**(e) Class action waiver.** Any proceedings to resolve or litigate any dispute in any forum will be conducted solely on an individual basis. Neither you nor FORD MOTOR COMPANY, will seek to have any dispute heard as a class action, as a private attorney general action, or in any other proceeding in which any party acts or proposes to act in a representative capacity. No arbitration or proceeding will be combined with another without the prior written consent of all parties to all affected arbitrations or proceedings.

**(f) Arbitration procedure.** Any arbitration will be conducted by the American Arbitration Association (the "AAA"), under its Commercial Arbitration Rules. If You are an individual and use the SOFTWARE for personal or vehicle use, or if the value of the dispute is \$75,000 or less whether or not You are an individual or how You use the SOFTWARE, the AAA Supplementary Procedures for Consumer-Related Disputes will also apply. To commence arbitration, submit a Commercial Arbitration Rules Demand for Arbitration form to the AAA. You may request a telephonic or in-person hearing by following the AAA rules. In a dispute involving \$10,000 or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. For more information, see [adr.org](http://adr.org) or call 1-800-778-7879. You agree to commence arbitration only in your county of residence or FORD MOTOR COMPANY'S principal place of business. The arbitrator

# Appendices

may award the same damages to You individually as a court could. The arbitrator may award declaratory or injunctive relief only to You individually, and only to the extent required to satisfy Your individual claim.

## **(g) Arbitration fees and incentives.**

- I. Disputes involving \$75,000 or less. FORD MOTOR COMPANY will promptly reimburse your filing fees and pay the AAA's and arbitrator's fees and expenses. If you reject FORD MOTOR COMPANY'S last written settlement offer made before the arbitrator was appointed ("last written offer"), your dispute goes all the way to an arbitrator's decision (called an "award"), and the arbitrator awards you more than the last written offer, FORD MOTOR COMPANY will give you three incentives: (1) pay the greater of the award or \$1,000; (2) pay twice your reasonable attorney's fees, if any; and (3) reimburse any expenses (including expert witness fees and costs) that your attorney reasonably accrues for investigating, preparing, and pursuing your claim in arbitration. The arbitrator will determine the amounts.
- ii. Disputes involving more than \$75,000. The AAA rules will govern payment of filing fees and the AAA's and arbitrator's fees and expenses.
- iii. Disputes involving any amount. In any arbitration you commence, FORD MOTOR COMPANY will seek its AAA or arbitrator's fees and expenses, or Your filing fees it reimbursed, only if the arbitrator finds the arbitration frivolous or brought for an improper purpose. In any arbitration FORD MOTOR COMPANY commences, it will pay all

filing, AAA, and arbitrator's fees and expenses. It will not seek its attorney's fees or expenses from you in any arbitration. Fees and expenses are not counted in determining how much a dispute involves.

**(h) Claims or disputes must be filed within one year.** To the extent permitted by law, any claim or dispute under this EULA to which this Section applies must be filed within one year in small claims court (Section c) or in arbitration (Section d). The one-year period begins when the claim or dispute first could be filed. If such a claim or dispute is not filed within one year, it is permanently barred.

**(i) Severability.** If the class action waiver (Section e) is found to be illegal or unenforceable as to all or some parts of a dispute, then that portion of Section e will not apply to those parts. Instead, those parts will be severed and proceed in a court of law, with the remaining parts proceeding in arbitration. If any other provision of that portion Section e is found to be illegal or unenforceable, that provision will be severed with the remainder of Section e remaining in full force and effect.

## **Telenav Software End User License Agreement**

Please read these terms and conditions carefully before you use the TeleNav Software. Your use of the TeleNav Software indicates that you accept these terms and conditions. If you do not accept these terms and conditions, do not break the seal of the package, launch, or otherwise use the TeleNav Software. TeleNav may revise this Agreement and the privacy policy at any time, with or without notice to you. You agree to visit <http://www.telenav.com> from time to time to review the then current version of this Agreement and of the privacy policy.

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## 1. Safe and Lawful Use

You acknowledge that devoting attention to the TeleNav Software may pose a risk of injury or death to you and others in situations that otherwise require your undivided attention, and you therefore agree to comply with the following when using the TeleNav Software:

- (a) observe all traffic laws and otherwise drive safely;
- (b) use your own personal judgment while driving. If you feel that a route suggested by the TeleNav Software instructs you to perform an unsafe or illegal maneuver, places you in an unsafe situation, or directs you into an area that you consider to be unsafe, do not follow such instructions;
- (c) do not input destinations, or otherwise manipulate the TeleNav Software, unless your vehicle is stationary and parked;
- (d) do not use the TeleNav Software for any illegal, unauthorized, unintended, unsafe, hazardous, or unlawful purposes, or in any manner inconsistent with this Agreement;
- (e) arrange all GPS and wireless devices and cables necessary for use of the TeleNav Software in a secure manner in your vehicle so that they will not interfere with your driving and will not prevent the operation of any safety device (such as an airbag).

You agree to indemnify and hold TeleNav harmless against all claims resulting from any dangerous or otherwise inappropriate use of the TeleNav Software in any moving vehicle, including as a result of your failure to comply with the directions above.

## 2. Account Information

You agree: (a) when registering the TeleNav Software, to provide TeleNav with true, accurate, current, and complete information about yourself, and (b) to inform TeleNav promptly of any changes to such information, and to keep it true, accurate, current and complete.

## 3. Software License

- Subject to your compliance with the terms of this Agreement, TeleNav hereby grants to you a personal, non-exclusive, non-transferable license (except as expressly permitted below in connection with your permanent transfer of the TeleNav Software license), without the right to sublicense, to use the TeleNav Software (in object code form only) in order to access and use the TeleNav Software. This license shall terminate upon any termination or expiration of this Agreement. You agree that you will use the TeleNav Software only for your personal business or leisure purposes, and not to provide commercial navigation services to other parties.

### 3.1 License Limitations

- **(a)** reverse engineer, decompile, disassemble, translate, modify, alter or otherwise change the TeleNav Software or any part thereof; **(b)** attempt to derive the source code, audio library or structure of the TeleNav Software without the prior express written consent of TeleNav; **(c)** remove from the TeleNav Software, or alter, any of TeleNav's or its suppliers' trademarks, trade names, logos, patent or copyright notices, or other notices or markings; **(d)**

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distribute, sublicense or otherwise transfer the TeleNav Software to others, except as part of your permanent transfer of the TeleNav Software; or **(e)** use the TeleNav Software in any manner that

- i. infringes the intellectual property or proprietary rights, rights of publicity or privacy or other rights of any party,
- ii. violates any law, statute, ordinance or regulation, including but not limited to laws and regulations related to spamming, privacy, consumer and child protection, obscenity or defamation, or
- iii. is harmful, threatening, abusive, harassing, tortuous, defamatory, vulgar, obscene, libelous, or otherwise objectionable; and (f) lease, rent out, or otherwise permit unauthorized access by third parties to the TeleNav Software without advanced written permission of TeleNav.

## 4. Disclaimers

- To the fullest extent permissible pursuant to applicable law, in no event will TeleNav, its licensors and suppliers, or agents or employees of any of the foregoing, be liable for any decision made or action taken by you or anyone else in reliance on the information provided by the TeleNav Software. TeleNav also does not warrant the accuracy of the map or other data used for the TeleNav Software. Such data may not always reflect reality due to, among other things, road closures, construction, weather, new roads and other changing conditions. You are responsible for the entire risk arising out of your use of the TeleNav Software. For example but without limitation, you agree not to rely on the TeleNav Software for critical navigation in areas where the well-being or survival of you or others

is dependent on the accuracy of navigation, as the maps or functionality of the TeleNav Software are not intended to support such high risk applications, especially in more remote geographical areas.

- TELENAV EXPRESSLY DISCLAIMS AND EXCLUDES ALL WARRANTIES IN CONNECTION WITH THE TELENAV SOFTWARE, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES WHICH MAY ARISE FROM COURSE OF DEALING, CUSTOM OR TRADE AND INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS WITH RESPECT TO THE TELENAV SOFTWARE.
- Certain jurisdictions do not permit the disclaimer of certain warranties, so this limitation may not apply to you.

## 5. Limitation of Liability

- TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL TELENAV OR ITS LICENSORS AND SUPPLIERS BE LIABLE TO YOU OR TO ANY THIRD PARTY FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES (INCLUDING IN EACH CASE, BUT NOT LIMITED TO, DAMAGES FOR THE INABILITY TO USE THE EQUIPMENT OR ACCESS DATA, LOSS OF DATA, LOSS OF BUSINESS, LOSS OF PROFITS, BUSINESS INTERRUPTION OR THE LIKE) ARISING OUT OF THE USE OF OR INABILITY TO USE THE TELENAV SOFTWARE, EVEN IF TELENAV HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY



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REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED HEREIN AND ALL DIRECT OR GENERAL DAMAGES IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE), THE ENTIRE LIABILITY OF TELENAV AND OF ALL OF TELENAV'S SUPPLIERS SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE TELENAV SOFTWARE. SOME STATES AND/OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

## **6. Arbitration and Governing Law**

- You agree that any dispute, claim or controversy arising out of or relating to this Agreement or the TeleNav Software shall be settled by independent arbitration involving a neutral arbitrator and administered by the American Arbitration Association in the County of Santa Clara, California. The arbitrator shall apply the Commercial Arbitration Rules of the American Arbitration Association, and the judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction. Note that there is no judge or jury in an arbitration proceeding and the decision of the arbitrator shall be binding upon both parties. You expressly agree to waive your right to a jury trial. This Agreement and performance hereunder will be governed by and construed in accordance with the laws of the State of California, without giving effect to its conflict of law provisions. To the extent judicial action is necessary in connection with the binding arbitration, both TeleNav and you agree to submit

to the exclusive jurisdiction of the courts of the County of Santa Clara, California. The United Nations Convention on Contracts for the International Sale of Goods shall not apply.

## **7. Assignment**

- You may not resell, assign, or transfer this Agreement or any of your rights or obligations, except in totality, in connection with your permanent transfer of the TeleNav Software, and expressly conditioned upon the new user of the TeleNav Software agreeing to be bound by the terms and conditions of this Agreement. Any such sale, assignment or transfer that is not expressly permitted under this paragraph will result in immediate termination of this Agreement, without liability to TeleNav, in which case you and all other parties shall immediately cease all use of the TeleNav Software. Notwithstanding the foregoing, TeleNav may assign this Agreement to any other party at any time without notice, provided the assignee remains bound by this Agreement.

## **8. Miscellaneous**

### **8.1**

This Agreement constitutes the entire agreement between TeleNav and you with respect to the subject matter hereof.

### **8.2**

Except for the limited licenses expressly granted in this Agreement, TeleNav retains all right, title and interest in and to the TeleNav Software, including without limitation all related intellectual property rights. No licenses or other rights which are not expressly granted in this Agreement are intended to, or shall be, granted or

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conferred by implication, statute, inducement, estoppel or otherwise, and TeleNav and its suppliers and licensors hereby reserve all of their respective rights other than the licenses explicitly granted in this Agreement.

## 8.3

By using the TeleNav Software, you consent to receive from TeleNav all communications, including notices, agreements, legally required disclosures or other information in connection with the TeleNav Software (collectively, "Notices") electronically. TeleNav may provide such Notices by posting them on TeleNav's Website or by downloading such Notices to your wireless device. If you desire to withdraw your consent to receive Notices electronically, you must discontinue your use of the TeleNav Software.

## 8.4

TeleNav's or your failure to require performance of any provision shall not affect that party's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this Agreement constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

## 8.5

If any provision herein is held unenforceable, then such provision will be modified to reflect the intention of the parties, and the remaining provisions of this Agreement will remain in full force and effect.

## 8.6

The headings in this Agreement are for convenience of reference only, will not be deemed to be a part of this Agreement, and will not be referred to in connection with the construction or interpretation of this Agreement. As used in this Agreement, the words "include" and "including" and variations thereof, will not be deemed to be terms of limitation, but rather will be deemed to be followed by the words "without limitation".

## 9. Other Vendors Terms and Conditions

- The Telenav Software utilizes map and other data licensed to Telenav by third party vendors for the benefit of you and other end users. This Agreement includes end-user terms applicable to these companies (included at the end of this Agreement), and thus your use of the Telenav Software is also subject to such terms. You agree to comply with the following additional terms and conditions, which are applicable to Telenav's third party vendor licensors:

## 9.1 End User Terms Required by HERE North America, LLC

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and Telenav ("Telenav") and its licensors (including their licensors and suppliers) on the other hand.

© 2013 HERE. All rights reserved.

The Data for areas of Canada includes information taken with permission from Canadian authorities, including: © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © Department of Natural Resources Canada.

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The Data for Mexico includes certain data from Instituto Nacional de Estadística y Geografía.

## **9.2 End User Terms Required by NAV2 (Shanghai) Co., Ltd**

The data (“Data”) is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and NAV2 (Shanghai) Co., Ltd (“NAV2”) and its licensors (including their licensors and suppliers) on the other hand. 20xx. All rights reserved

### **Terms and Conditions**

**Permitted Use.** You agree to use this Data together with the Telenav Software solely for the internal business and personal purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you agree not to otherwise reproduce, copy, modify, decompile, disassemble, create any derivative works of, or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws.

**Restrictions.** Except where you have been specifically licensed to do so by Telenav, and without limiting the preceding paragraph, you may not use this Data (a) with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs.

**Warning.** The Data may contain inaccurate or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results.

**No Warranty.** This Data is provided to you “as is,” and you agree to use it at your own risk. Telenav and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.

**Disclaimer of Warranty:** TELENAV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A

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PARTICULAR PURPOSE OR NON-INFRINGEMENT. Some States, Territories and Countries do not allow certain warranty exclusions, so to that extent the above exclusion may not apply to you.

**Disclaimer of Liability:** TELENAV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF TELENAV OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some States, Territories and Countries do not allow certain liability exclusions or damages limitations, so to that extent the above may not apply to you.

**Export Control.** You shall not export from anywhere any part of the Data or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations, including but not limited to the laws, rules and regulations administered by the Office of Foreign Assets Control of the U.S. Department of Commerce and the Bureau of Industry and Security of the U.S. Department of Commerce. To the extent that any such

export laws, rules or regulations prohibit HERE from complying with any of its obligations hereunder to deliver or distribute Data, such failure shall be excused and shall not constitute a breach of this Agreement.

**Entire Agreement.** These terms and conditions constitute the entire agreement between Telenav (and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

**Governing Law.** The above terms and conditions shall be governed by the laws of the State of Illinois [insert "Netherlands" where European HERE Data is used], without giving effect to (i) its conflict of laws provisions, or (ii) the United Nations Convention for Contracts for the International Sale of Goods, which is explicitly excluded. You agree to submit to the jurisdiction of the State of Illinois [insert "The Netherlands" where European HERE Data is used] for any and all disputes, claims and actions arising from or in connection with the Data provided to you hereunder.

**Government End Users.** If the Data is being acquired by or on behalf of the United States government or any other entity seeking or applying rights similar to those customarily claimed by the United States government, this Data is a "commercial item" as that term is defined at 48 C.F.R. ("FAR") 2.101, is licensed in accordance with these End-User Terms, and each copy of Data delivered or otherwise furnished shall be marked and embedded as appropriate with the following "Notice of Use," and shall be treated in accordance with such Notice:

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## NOTICE OF USE

CONTRACTOR (MANUFACTURER/  
SUPPLIER) NAME: HERE

CONTRACTOR (MANUFACTURER/  
SUPPLIER) ADDRESS: c/o Nokia, 425  
West Randolph Street, Chicago, Illinois  
60606

This Data is a commercial item as  
defined in FAR 2.101 and is subject to  
these End-User Terms under which this  
Data was provided.

© 1987 – 2014 HERE – All rights reserved.

If the Contracting Officer, federal government agency, or any federal official refuses to use the legend provided herein, the Contracting Officer, federal government agency, or any federal official must notify HERE prior to seeking additional or alternative rights in the Data.

### I. US/Canada Territory

A. United States Data. The End-User Terms for any Application containing Data for the United States shall contain the following notices:

“HERE holds a non-exclusive license from the United States Postal Service® to publish and sell ZIP+4® information.”

“©United States Postal Service® 20XX. Prices are not established, controlled or approved by the United States Postal Service®. The following trademarks and registrations are owned by the USPS: United States Postal Service, USPS, and ZIP+4.”

B. Canada Data. The following provisions apply to the Data for Canada, which may include or reflect data from third party licensors (“Third Party Data”), including Her Majesty the Queen in Right of Canada (“Her Majesty”), Canada Post Corporation (“Canada Post”) and the Department of Natural Resources of Canada (“NRCan”):

1. Disclaimer and Limitation: Client agrees that its use of the Third Party Data is subject to the following provisions:

a. Disclaimer: The Third Party Data is licensed on an “as is” basis. The licensors of such data, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data, either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose.

b. Limitation on Liability: The Third Party Data licensors, including Her Majesty, Canada Post and NRCan, shall not be liable: (i) in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of such Data; or (ii) in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the Data.

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2. Copyright Notice: In connection with each copy of all or any portion of the Data for the Territory of Canada, Client shall affix in a conspicuous manner the following copyright notice on at least one of: (i) the label for the storage media of the copy; (ii) the packaging for the copy; or (iii) other materials packaged with the copy, such as user manuals or end user license agreements: "This data includes information taken with permission from Canadian authorities, including © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © The Department of Natural Resources Canada. All rights reserved!"

3. End-User Terms: Except as otherwise agreed by the parties, in connection with the provision of any portion of the Data for the Territory of Canada to End-Users as may be authorized under the Agreement, Client shall provide such End-Users, in a reasonably conspicuous manner, with terms (set forth with other end user terms required to be provided under the Agreement, or as otherwise may be provided, by Client) which shall include the following provisions on behalf of the Third Party Data licensors, including Her Majesty, Canada Post and NRCan:

The Data may include or reflect data of licensors, including Her Majesty the Queen in the Right of Canada ("Her Majesty"), Canada Post Corporation ("Canada Post") and the Department of Natural Resources Canada ("NRCan"). Such data is licensed on an "as is" basis. The licensors, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data,

either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of the data or the Data. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the data or the Data.

End User shall indemnify and save harmless the licensors, including Her Majesty, Canada Post and NRCan, and their officers, employees and agents from and against any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action, alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of the use or possession of the data or the Data.

4. Additional Provisions: The terms contained in this Section are in addition to all of the rights and obligations of the parties under the Agreement. To the extent that any of the provisions of this Section are inconsistent with, or conflict with, any other provisions of the Agreement, the provisions of this Section shall prevail.

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II. Mexico. The following provision applies to the Data for Mexico, which includes certain data from the Instituto Nacional de Estadística y Geografía (“INEGI”):

A. Any and all copies of the Data and/or packaging containing Data for Mexico shall contain the following notice: “Fuente: INEGI (Instituto Nacional de Estadística y Geografía)”

### III. Latin America Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Territory	Notice
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Argentina	IGN “INSTITUTO GEOGRAFICO NACIONAL ARGENTINO”
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Ecuador	“INSTITUTO GEOGRAFICO MILITAR DEL ECUADOR AUTORIZACION N° IGM-2011-01- PCO-01 DEL 25 DE ENERO DE 2011” “source: © IGN 2009 - BD TOPO ®”
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Guadeloupe, French Guiana and Martinique Mexico	“Fuente: INEGI (Instituto Nacional de Estadística y Geografía)”
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### IV. Middle East Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Country	Notice
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Jordan	“© Royal Jordanian Geographic Centre”. The foregoing notice requirement for Jordan Data is a material term of the Agreement. If Client or any of its permitted sublicensees (if any) fail to meet such requirement, HERE shall have the right to terminate Client’s license with respect to the Jordan Data.
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B. Jordan Data. Client and its permitted sublicensees (if any) are restricted from licensing and/or otherwise distributing HERE’s database for the country of Jordan (“Jordan Data”) for use in Enterprise Applications to (i) non-Jordanian entities for use of the Jordan Data solely in Jordan or (ii) Jordan-based customers. In addition, Client, its permitted sublicensees (if any) and End-Users are restricted from using the Jordan Data in Enterprise Applications if such party is (i) a non-Jordanian entity using the Jordan Data solely in Jordan or (ii) a Jordan-based customer. For purposes of the foregoing, “Enterprise Applications” shall mean Geomarketing applications, GIS applications, mobile business asset management applications, call center applications, telematics applications, public organization Internet applications or for providing geocoding services.

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## V. Europe Territory

### A. Use of Certain Traffic Codes in Europe

1. General Restrictions Applicable to Traffic Codes. Client acknowledges and agrees that in certain countries of the Europe Territory, Client will need to obtain rights directly from third party RDS-TMC code providers to receive and use the Traffic Codes in the Data and to deliver to End-Users Transactions in any way derived from or based on such Traffic Codes. For such countries, HERE shall deliver the Data incorporating Traffic Codes to Client only after receiving certification from Client of its having obtained such rights.

2. Display of Third Party Rights Legends for Belgium. Client shall, for each Transaction that uses Traffic Codes for Belgium, provide the following notice to the End-User: "Traffic Codes for Belgium are provided by the Ministerie van de Vlaamse Gemeenschap and the Ministère de l'Équipement et des Transports."

B. Paper Maps. With respect to any license granted to Client relating to making, selling or distributing paper maps (i.e., a map fixed on a paper or paper-like medium): (a) such license with respect to Data for the Territory of Great Britain is conditioned on Client's entering into and complying with a separate written agreement with the Ordnance Survey ("OS") to create and sell paper maps, Client's paying to the OS any and all applicable paper map royalties, and Client's complying with the OS copyright notice requirements; (b) such license for selling or otherwise distributing for charge with respect to Data for the Territory of Czech Republic

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C. OS Enforcement. Without limiting Section IV(B) above, with respect to Data for the Territory of Great Britain, Client acknowledges and agrees that the Ordnance Survey ("OS") may bring a direct action against Client to enforce compliance with the OS copyright notice (see Section IV(D) below) and paper map requirements (see Section IV(B) above) contained in this Agreement.

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FCC ID: ACJ-SYNCG3-L

IC: 216B-SYNCG3-L

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- (1)** This device may not cause harmful interference, and
- (2)** this device must accept any interference received, including interference that may cause undesired operation.



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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## Taiwan Territory

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Article 12: For approved and certified low-power radiation motor models, companies, firms or users must not alter the frequency, increase the power or change the characteristics and functions of the original design without authorization.

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