

## 2019 **POLICE INTERCEPTOR SEDAN** Owner's Manual



owner.ford.com

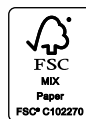


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2019 **POLICE INTERCEPTOR SEDAN** Owner's Manual



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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.

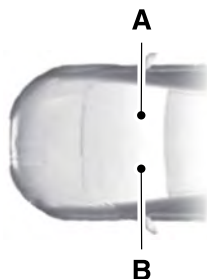
**Note:** This manual describes product features and options available throughout the range of available models, sometimes even before they are generally available. It may describe options not fitted to the vehicle you have purchased.

**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.



E154903

- 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



Cabin air filter



Check fuel cap



Child safety door lock or unlock



Child seat lower anchor



Child seat tether anchor



Cruise control



Do not open when hot



Engine air filter



Engine coolant



Engine coolant temperature



Engine oil



Explosive gas



Fan warning



Fasten seatbelt



Flammable



Front airbag



Front fog lamps



Fuel pump reset



Fuse compartment



Hazard flashers



Heated rear window



Windshield defrosting system



Interior luggage compartment release



Jack



Keep out of reach of children



Lighting control



Low tire pressure warning



Maintain correct fluid level



Note operating instructions

# Introduction



Horn control



Panic 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 wipping system



Windshield wash and wipe

## DATA RECORDING

### Service Data Recording

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

# Introduction

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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, such as SYNC Vehicle Health Report or MyFord Mobile App, 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. See **SYNCTM** (page 257).

## Event Data Recording

**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 safety belts were buckled/fastened;**
- **How far (if at all) the driver was depressing the accelerator and/or the brake pedal; and**
- **How fast the vehicle was traveling; and**
- **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.**

**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 (e.g., name, gender, age, and crash location) is recorded (see limitations regarding 911 Assist and Traffic, directions and Information privacy below). 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**

# Introduction

the information if they have access to the vehicle or the event data recorder. Ford Motor Company and Ford of Canada do not access event data recorder information without obtaining consent, unless pursuant to 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.

**Note:** *Including to the extent that any law pertaining to Event Data Recorders applies to SYNC or its features, please note the following: Once 911 Assist (if equipped) is enabled (set ON), 911 Assist may, through any paired and connected cell phone, disclose to emergency services that the vehicle has been in a crash involving the deployment of an airbag or, in certain vehicles, the activation of the fuel pump shut-off. Certain versions or updates to 911 Assist may also be capable of being used to electronically or verbally provide to 911 operators the vehicle location (such as latitude and longitude), and/or other details about the vehicle or crash or personal information about the occupants to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not activate the 911 Assist feature. See SYNC™ (page 257).*

**Additionally, when you connect to Traffic, Directions and Information (if equipped, U.S. only), the service uses GPS technology and advanced vehicle sensors to collect the vehicle's current location, travel direction, and speed ("vehicle travel information"), only to help provide you with the directions, traffic reports, or business searches that you request. If you do not want**

**Ford or its vendors to receive this information, do not activate the service. For more information, see Traffic, Directions and Information, Terms and Conditions. See SYNC™ (page 257).**

## 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.

We offer a number of convenient ways for you to contact us, and to manage your account.

Call 1-800-727-7000.

For more information about Ford Credit and access to Account Manager, go to [www.ford.com/finance](http://www.ford.com/finance).

# Introduction

## 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 do happen. 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, see the Warranty Manual 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:** Never place front seat mounted rear-facing child or infant seats in front of an active passenger airbag.

# Introduction

## On-board Diagnostics (OBD-II)



**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's On-board Diagnostics (OBD-II) system has a data port for diagnostics, repair and reprogramming services with diagnostic scan tools. Installing a non-Ford-approved aftermarket OBD plug-in device that uses the port during normal driving, for example remote insurance company monitoring, remote vehicle diagnostics, telematics or engine reprogramming, may cause interference or damage to vehicle systems. We do not recommend or endorse the use of any non-Ford-approved aftermarket OBD plug-in devices. The vehicle Warranty may not cover damage caused by any non-Ford-approved aftermarket OBD plug-in device.

## My Fleet Management

This feature allows a fleet administrator to control specific vehicle settings using a Ford authorized service tool. This helps the fleet administrator set certain vehicle settings to match administrative policy. The configurable settings are:

- Vehicle Speed: Select an alternative speed limit that is below your vehicle's maximum capability. A message displays and a tone sounds when starting your vehicle to indicate the customized speed limit.
- Audio Volume: Select a limit for the maximum volume of the audio system in the range of 0% (full mute) to 100% (no limit) in 10% increments.

**For more information regarding the My Fleet Management feature configuration process, reference the procedure in the Police Upfit & Modifier's Guide found at:**

Web Address
<a href="http://www.fordpoliceinterceptorupfit.com">www.fordpoliceinterceptorupfit.com</a>

## 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.**

## PROTECTING THE ENVIRONMENT

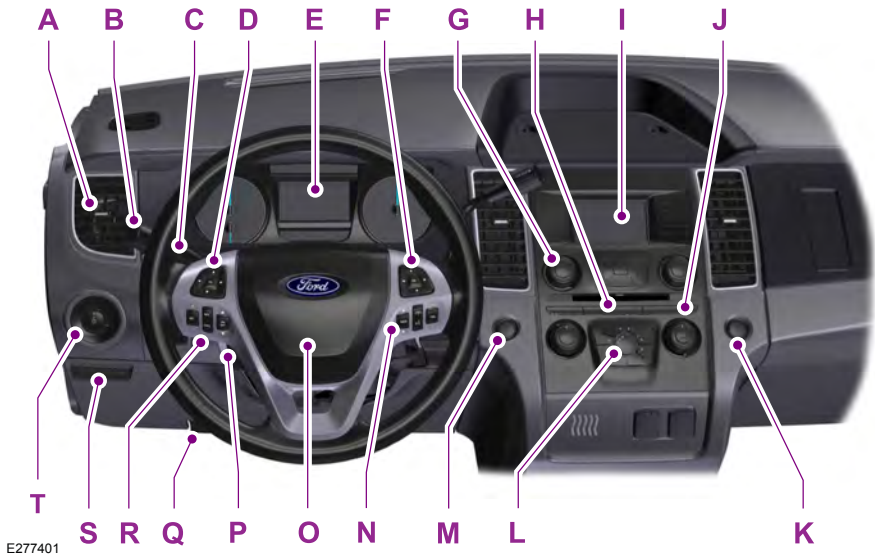
You should play your part in protecting the environment. Correct vehicle usage and the authorized disposal of waste, cleaning and lubrication materials are significant steps toward this aim.

**For details about Ford Motor Company's sustainability progress and initiatives visit:**

Web Address
<a href="http://www.sustainability.ford.com">www.sustainability.ford.com</a>

# At a Glance

## INSTRUMENT PANEL OVERVIEW



E277401

- |   |                                                                                |   |                                                                                        |
|---|--------------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------|
| A | Air vent.                                                                      | H | Hazard flasher switch. See <b>Hazard Flashers</b> (page 153).                          |
| B | Wiper lever. See <b>Windshield Wipers</b> (page 60).                           | I | Information and entertainment display.                                                 |
| C | Direction indicators. See <b>Direction Indicators</b> (page 64).               | J | Passenger airbag indicator light. See <b>Front Passenger Sensing System</b> (page 40). |
| D | Information display control. See <b>Information Display Control</b> (page 58). | K | Luggage compartment switch. See <b>Locking and Unlocking</b> (page 53).                |
| E | Instrument cluster. See <b>Instrument Cluster</b> (page 70).                   | L | Climate controls. See <b>Climate Control</b> (page 83).                                |
| F | Information display control. See <b>Information Display Control</b> (page 58). | M | Ignition switch. See <b>Ignition Switch</b> (page 92).                                 |
| G | Audio system. See <b>Audio System</b> (page 249).                              | N | Audio control. See <b>Audio Control</b> (page 57).                                     |
|   |                                                                                | O | Horn.                                                                                  |

## At a Glance

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- P Steering wheel adjustment. See **Adjusting the Steering Wheel** (page 57).
- Q Hood release. See **Opening and Closing the Hood** (page 175).
- R Cruise control switches. See **Using Cruise Control** (page 130).
- S Police engine idle. See **Police Engine Idle Feature** (page 95).
- T Lighting control. See **Lighting Control** (page 61).

# 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 safety seat (sometimes called an infant carrier, convertible seat, or toddler seat).
Small children	Children who have outgrown or no longer properly fit in a child safety seat (generally children who are less than 4 ft. 9 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 4 ft. 9 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 seatback upright.

- You are required by law to properly use safety seats for infants and toddlers in the United States and Canada.
- Many states and provinces require that small children use approved booster seats until they reach age eight, a height of 4 feet 9 inches (1.45 meters) 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, always 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 40).

## INSTALLING CHILD RESTRAINTS

### Child Seats



E142594

# Child Safety

Use a child safety seat (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:** 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:** Airbags can kill or injure a child in a child restraint. Properly restrain children 12 and under in the rear seat whenever possible.



**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 safety seat 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 safety seat, with the tongue between the child restraint and the release button, to prevent accidental unbuckling.

- Place the vehicle seat upon which the child restraint will be installed in the upright position.
- 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.*

**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.*



E142528

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

# Child Safety



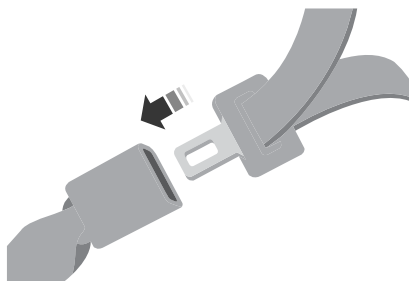
E142529

2. After positioning the child safety seat 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.



E142530

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. Be sure the belt webbing is not twisted.



E142531

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 the tongue is latched securely by pulling on it.



E142875

5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until you pull all of the belt out.
6. Allow the belt to retract to remove slack. The belt clicks as it retracts to indicate it is in the automatic locking mode.



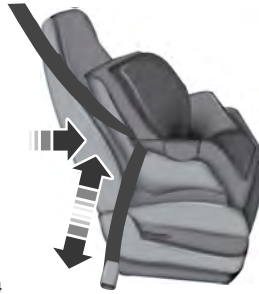
## Child Safety

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 is not locked, unbuckle the belt and repeat Steps 5 and 6.



E142533

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 while pulling up on the shoulder belt in order to force slack from the belt. This is necessary to remove the remaining slack that will exist once the extra weight of the child is added 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.



E142534

10. Before placing the child in the seat, forcibly move the seat forward and back to make sure the seat is 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.

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.

### 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.

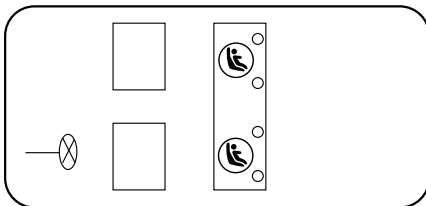
# Child Safety



**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.

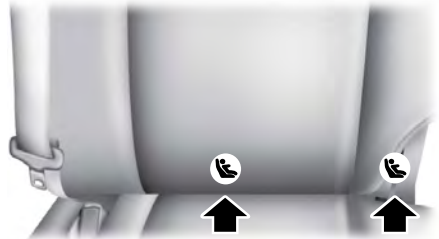
The LATCH system is composed of three vehicle anchor points: two lower anchors where the seatback and seat cushion meet (called the seat bight) and one top tether anchor behind that seating position.

LATCH compatible child safety seats 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 a top tether strap has been provided with your child restraint.



E142535

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



E224433

The LATCH anchors are at the rear section of the rear seat between the cushion and seatback 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 safety seats with tether straps. See **Using Tether Straps** later in this chapter.

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

**Use of inboard lower anchors from the outboard 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.

# Child Safety

The lower anchors at the center of the second row seats are spaced 24 in (61 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. 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 safety seat, check that the seat is properly attached to the lower anchors and tether anchor, if applicable. Tug the child restraint from side to side and forward and back where it is secured to your vehicle. The seat should move less than one inch when you do this for a proper installation.

If the safety seat is not anchored properly, the risk of a child being injured in a crash greatly increases.

## Combining Seatbelt and LATCH Lower Anchors for Attaching Child Safety Seats

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

## Using Tether Straps

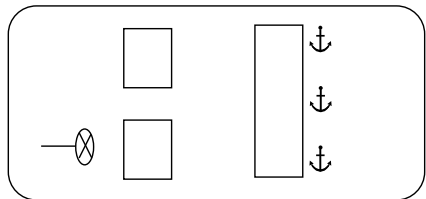


Many forward-facing child safety seats include a tether strap which extends from the back of the child safety seat and hooks to an anchoring point called the top tether anchor. Tether straps are available as an accessory for many older safety seats.

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 safety seat does not reach the appropriate top tether anchor in your vehicle.

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

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



E142537

Perform the following steps to install a child safety seat with tether anchors:

**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.*

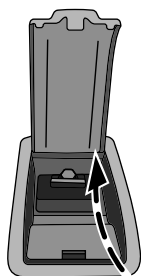
1. Route the child safety seat tether strap over the seatback.

# Child Safety



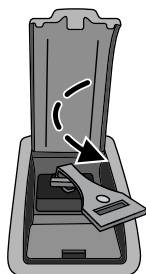
E201569

2. Locate the correct anchor for the selected seating position.



E201570

3. Open the tether anchor cover.



E201571

4. Clip the tether strap to the anchor as shown.

5. Tighten the child safety seat tether strap according to the manufacturer's instructions.

If the safety seat is not anchored properly, the risk of a child being injured in a crash greatly increases.

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

## BOOSTER SEATS

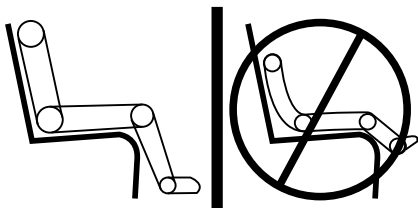


**WARNING:** Do not put the shoulder section of the seatbelt or allow the child to put the shoulder section of the seatbelt under their arm or behind their back. Failure to follow this instruction could reduce the effectiveness of the seatbelt and increase the risk of injury or death in a crash.

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:

# Child Safety



E142595

- 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.

## Types of Booster Seats



E68924

- 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.



E70710

- 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



E142596



E142597



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

# Child Safety

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.



**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.

# Child Safety

## 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	

**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 86).



# Seatbelts

## PRINCIPLE OF OPERATION



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



**WARNING:** To reduce the risk of injury, make sure children sit where they can be properly restrained.



**WARNING:** Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a crash, which may result in serious injury or death.



**WARNING:** All occupants of the 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. Be sure everyone in your vehicle is in a seat and using a seatbelt properly.



**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 which is made up of one buckle and one tongue that are designed to be used as a pair. 1) Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. 2) Never wear the seatbelt around your neck over the inside shoulder. 3) Never use a single belt for more than one person.



**WARNING:** When possible, all children 12 years old and under should be properly restrained in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.



**WARNING:** Seatbelts and seats can become hot in a vehicle that has been closed up in sunny weather; they could burn a small child. Check seat covers and buckles before you place a child anywhere near them.



**WARNING:** Front and rear seat occupants, including pregnant women, should wear seatbelts for optimum protection in an accident.

All seating positions in this 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).
- Seatbelt pretensioner at the front outboard seating positions.
- Belt tension sensor at the front outboard passenger seating position.

# Seatbelts



· Seatbelt warning light and chime.



· Crash sensors and monitoring system with readiness indicator.

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

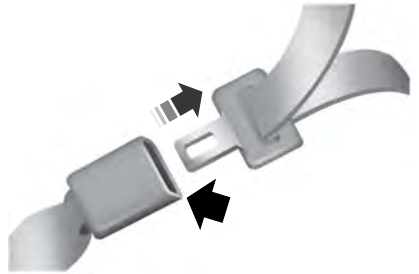
## FASTENING THE SEATBELTS

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



E142587

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 the tongue is securely fastened in the buckle.



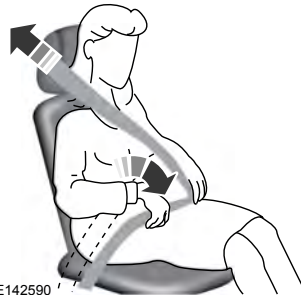
E142588

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.



E142590

# 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. 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 retractor is designed 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 a child safety seat, except a booster, is installed 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 18).

### How to Use the Automatic Locking Mode



E142591

1. Buckle the combination lap and shoulder belt.
2. Grasp the shoulder portion and pull downward until you pull the entire belt out.

# Seatbelts

3. 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.

## 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 activate the vehicle sensitive (emergency) locking mode.

## SEATBELT HEIGHT ADJUSTMENT



**WARNING:** Position the safety belt height adjusters so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the safety belt and increase the risk of injury in a crash.

Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

## 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.



E146191

To adjust the shoulder belt height:

1. Press the button and slide the height adjuster up or down.
2. Release the button and pull down on the height adjuster to make sure it is locked in place.

## 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.

# Seatbelts

## SEATBELT REMINDER

### Belt-Minder™

This feature supplements the safety belt warning function by providing additional reminders that intermittently sound a tone and illuminate the safety belt warning light when you are in the driver seat or you have a front seat passenger and a safety belt is unbuckled.

The system uses information from the front passenger sensing system to determine if a front seat passenger is present and therefore potentially in need of a warning. To avoid the system turning on the Belt-Minder feature for objects you place on the front passenger seat, only the front seat passengers receive warnings as determined by the front passenger sensing system.

If the Belt-Minder warnings expire (warnings for about five minutes) for one passenger (driver or front passenger), the other passenger can still cause the Belt-Minder feature to turn on.

If...	Then...
You and the front seat passenger buckle your safety belts before you switch the ignition on or less than 1–2 minutes elapse after you switch the ignition on...	The Belt-Minder feature will not activate.
You or the front seat passenger do not buckle your safety belts before your vehicle reaches at least 6 mph (9.7 km/h) and 1–2 minutes elapse after you switch the ignition on...	The Belt-Minder feature activates, the safety belt warning light illuminates and a warning tone sounds for 6 seconds every 25 seconds, repeating for about 5 minutes or until you and the front seat passenger buckle your safety belts.
The safety belt for the driver or front passenger is unbuckled for about 1 minute while the vehicle is traveling at least 6 mph (9.7 km/h) and more than 1–2 minutes elapse after you switch the ignition on...	The Belt-Minder feature activates, the safety belt warning light illuminates and a warning tone sounds for 6 seconds every 25 seconds, repeating for about 5 minutes or until you and the front seat passenger buckle your safety belts.

# Seatbelts

## Deactivating and Activating the Belt-Minder Feature



**WARNING:** While the system allows you to switch this feature off, the intent of the system is to remind you to wear your safety belt to improve your chance to survive an accident. We recommend you leave the system switched on 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 will terminate the process.*

Read Steps 1–4 thoroughly before proceeding with the programming procedure.

Before following the procedure, make sure that:

- The parking brake is set.
  - The transmission is in park (P).
  - The ignition is off.
  - The driver and front passenger safety belts are unbuckled.
1. Switch the ignition on. Do not start the vehicle.
  2. Wait until the safety belt warning light turns off (about 1 minute). After Step 2, wait an additional 5 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 safety belt four times at a moderate speed, ending in the unbuckled state. After Step 3, the safety belt warning light turns on.

4. While the safety belt warning light is on, buckle and then unbuckle the safety belt. After Step 4, the safety belt warning light flashes for confirmation.
  - This will switch the feature off for that seating position if it is currently on.
  - This will switch the feature on for that seating position 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 196).

# Seatbelts

## SEATBELT EXTENSION



**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 Ford Motor Company 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 fit of the belt 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 Ford Motor Company dealers. Only Ford seatbelt extensions made by the original equipment seatbelts manufacturer should be used with Ford seatbelts. Ask your authorized dealer if your extension is compatible with your Ford 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 (first row only) and seatbelt usage sensors.
- Driver seat position sensor.
- Front passenger sensing system.
- Passenger airbag off and on indicator lamp.
- 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, driver seat position sensor, 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



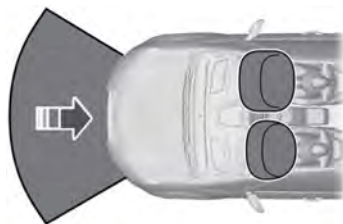
**WARNING:** Do not place your arms on the airbag cover or through the steering wheel. Failure to follow this instruction could result in personal injury.



**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.



E151127

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 45).

## 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.



E142846

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 to determine if the front passenger frontal airbag should be enabled (may inflate) or not.

PASS AIRBAG OFF ON

E278130

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

## Supplementary Restraints System

The indicators are in the center stack of the instrument panel.

**Note:** *The passenger airbag status 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. The sensor also turns off the passenger front airbag and seat-mounted side airbag when the passenger seat is empty.

- When the front passenger sensing system disables (will not inflate) the front passenger frontal airbag, the passenger airbag status 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 passenger airbag status on indicator illuminates, then switch the vehicle off, remove the child restraint from the vehicle and reinstall the restraint following 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 passenger airbag status on indicator illuminates and remains illuminated.

If a person of adult size is sitting in the front passenger seat, but the passenger airbag off indicator lamp illuminates, 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 enable the passenger frontal airbag.
- If the 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

## Supplementary Restraints System

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

**Note:** When the passenger airbag status off indicator illuminates, the passenger (seat mounted) side airbag may be disabled to avoid the risk of airbag deployment injuries.

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.

If you think that the status of the passenger airbag off indicator lamp is incorrect, check for the following:

- Objects lodged underneath the seat.
- Objects between the seat cushion and the center console.
- Objects hanging off the seat backrest.
- Objects stowed in the seat backrest map pocket.
- Objects placed on the occupant's lap.
- Cargo interference with the seat
- Other passengers pushing or pulling on the seat.
- Rear passenger feet and knees resting or pushing on the seat.

The conditions listed may cause the weight of a properly seated occupant to be incorrectly interpreted by the front passenger sensing system. The person in the front passenger seat may appear heavier or lighter due to the conditions described in the previous list.



Make sure the front passenger sensing system is operating properly. See **Crash Sensors and Airbag Indicator** (page 45).

If the airbag readiness light is lit, do the following:

The driver and adult passengers should check for objects lodged underneath the front passenger seat, or cargo interfering with the seat.

If there are lodged objects, or cargo is interfering with the seat, take the following steps to remove the obstruction:

- Pull the vehicle over.
- Switch the vehicle off.
- The driver and adult passengers should check for any objects lodged underneath the front passenger seat or cargo interfering with the seat.
- Remove the obstruction(s) (if found).
- Restart the vehicle.

## Supplementary Restraints System

- Wait at least two minutes and verify that the airbag readiness light is no longer illuminated.
- If the airbag readiness light remains illuminated, this may or may not be a problem due to the front passenger sensing system.

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 the Ford Customer Relationship Center. See

**Getting the Services You Need** (page 157).

### SIDE AIRBAGS



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the seatbacks (of the front seats), or in front seat 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 use accessory seat covers. The use of accessory seat covers may prevent the deployment of the side airbags and increase the risk of injury in an accident.



**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 airbag, its fuses or the seat cover on a seat containing an airbag as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.



**WARNING:** If the side airbag has deployed, the airbag will not function again. The side airbag system (including the seat) must be inspected and serviced by an authorized dealer. If the airbag is not replaced, the unrepaired area will increase the risk of injury in a crash.

The side airbags are located on the outboard side of the seatbacks of the front seats. In certain sideways crashes, the airbag on the side affected by the crash will be inflated. The airbag was designed to inflate between the door panel and occupant to further enhance the protection provided occupants in side impact crashes.



E152533

The system consists of the following:

- A label or embossed side panel indicating that side airbags are fitted to your vehicle.
- Side airbags located inside the driver and front passenger seatbacks.
- Front passenger sensing system.

# Supplementary Restraints System



- Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 45).

**Note:** *The passenger sensing system will deactivate the passenger seat-mounted side airbag if it detects an empty passenger seat.*

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.

## 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.



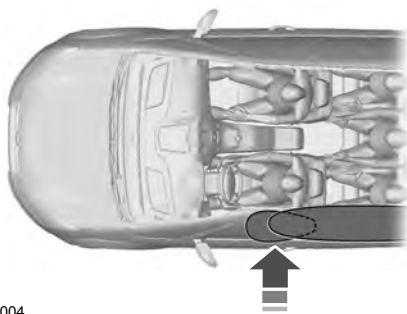
**WARNING:** To reduce risk of injury, do not obstruct or place objects in the deployment path of the airbag.



**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.

The Safety Canopy deploys 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.

# Supplementary Restraints System



E75004

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 a readiness indicator. See **Crash Sensors and Airbag Indicator** (page 45).

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 the vehicle (including frame, bumper, front end body structure and tow hooks) may affect the performance of the airbag system, increasing the risk of injury. Do not modify the front end of the 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 front seatbelt pretensioners, driver airbag, passenger airbag, seat mounted side airbags and the Safety Canopy. Based on the type of crash, the restraints control module will deploy the appropriate safety devices.

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 will either flash or stay lit.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem, the light or both are repaired.



• The readiness light will not illuminate immediately after the ignition is turned on.



# Supplementary Restraints System

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. Side airbags may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation.
- 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 in front of the airbag module cover or in front of the seat areas that may come in contact with a deploying airbag. Failure to follow this instruction could result in personal injury.



**WARNING:** Dash, tunnel or console-mounted equipment should not be placed outside of the specified zone. Failure to follow this instruction could result in personal injury.



**WARNING:** Do not mount equipment between the side of front seat to the door trim to block deployment of the side airbag. Failure to follow this instruction could result in personal injury.

Dual driver and passenger airbags, and side 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 in Figures 1 through 5. These dimensions are somewhat flexible and represent free form deployments without the loading of occupants. The shaded areas in Figures 6

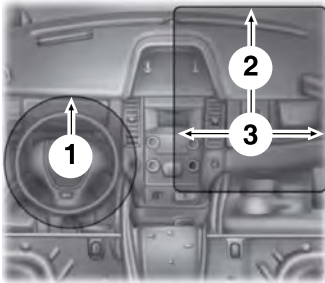
## Supplementary Restraints System

through 8 represent available police equipment mounting zones. These zones are shown for police vehicles equipped with standard bucket seats. The zone dimensions provided in Figures 6 through 8 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.

No equipment will mount between the side of the front seat and the door trim to block deployment of the side airbag.

**Figure 1**

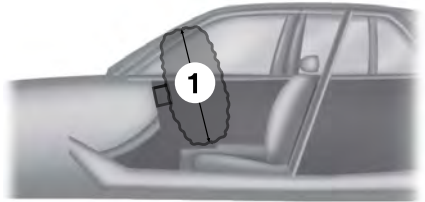


E201574

1. 13 inches (330 millimeters) from center of emblem.
2. 13.2 inches (335 millimeters) from center of airbag door.
3. 29.5 inches (750 millimeters).

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

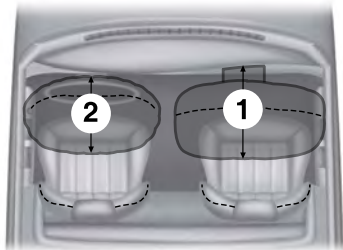
**Figure 2**



E201576

1. 29.9 inches (760 millimeters).

**Figure 3**



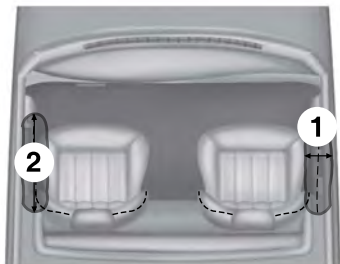
E201577

1. Front passenger airbag - 27.5 inches (700 millimeters).
2. Front driver airbag - 17 inches (430 millimeters).

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

# Supplementary Restraints System

**Figure 4 (If equipped)**



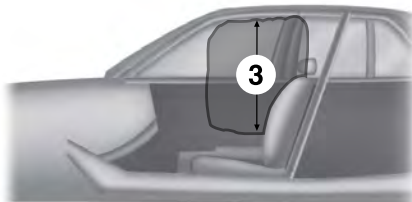
E201578

1. From outboard side of seat - 6 inches (152 millimeters).
2. Forward of seatback - 14 inches (356 millimeters).



**WARNING:** The partition and the installation hardware of the partition must not interfere with the operation and deployment of the rollover curtain air bags and seat side air bags. Failure to follow these instructions may cause personal injury.

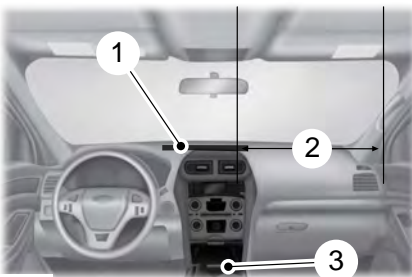
**Figure 5 (If equipped)**



E201579

3. Up from side airbag module - 16 inches (406 millimeters).

**Figure 6**

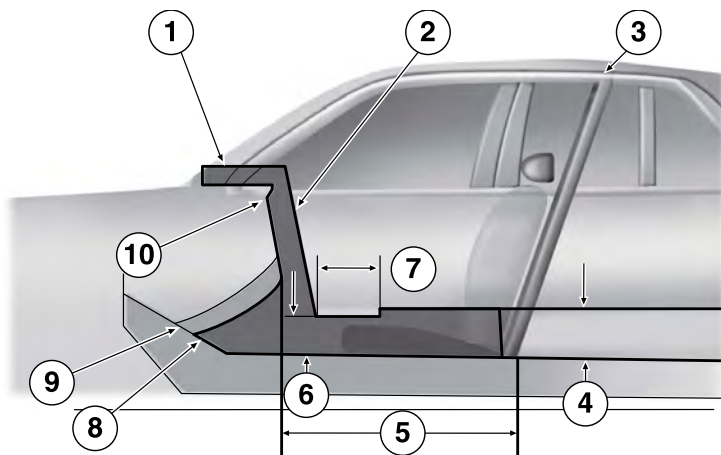


E201580

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.

# Supplementary Restraints System

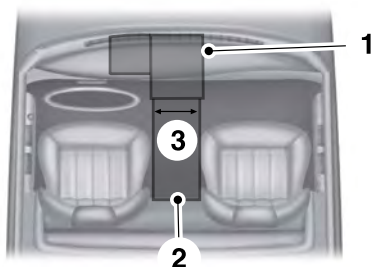
**Figure 7**



E201582

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 inches (254 millimeters).
5. Area on tunnel between seats.
6. Height: 8.5 inches (216 millimeters).
7. 12 inches (305 millimeters).
8. Area on tunnel beneath center console.
9. Tunnel.
10. Depth: 1.5 inches (38 millimeters).

**Figure 8**



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 inches (229 millimeters).

# **Supplementary Restraints System**

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## **AIRBAG DISPOSAL**

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

# 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



E215678

**Note:** If there are problems with the remote entry system, make sure to take all remote entry transmitters with you to an authorized dealer to aid in troubleshooting the problem.

## Changing the Remote Control Battery

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

# Keys and Remote Controls



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



E203601

1. Twist a thin coin in the slot of the transmitter 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 with the + facing down. Press the battery to make sure it is fully in the housing.
4. Reinstall the battery housing cover onto the transmitter.

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

## Car Finder



Press the button twice within three seconds. The horn sounds and the direction indicators flash. We recommend you use this method to locate your vehicle, rather than using the panic alarm.

**Note:** This feature does not work for vehicles with the Dark Car feature.

## Sounding the Panic Alarm



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 in any ignition position.

## 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. See **Anti-Theft Alarm** (page 56).

# Doors and Locks

## LOCKING AND UNLOCKING

You can use the power door lock control or the remote control to lock and unlock your vehicle.

### Power Door Locks

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



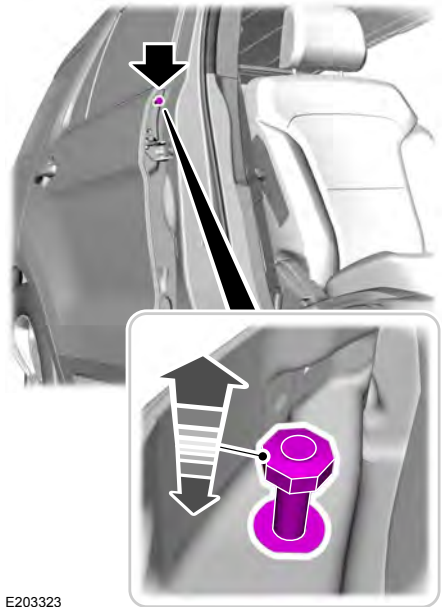
Press this button to unlock the door.



Press this button to lock the door.

### Hidden Rear Door Locks (If Equipped)

You can 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.

### Remote Control

You can use the remote control at any time.

**Note:** For vehicles with the Dark Car feature, the direction indicators do not flash and the horn does not sound when you lock or unlock your vehicle.

### Unlocking the Doors (Two-Stage Unlock)



Press the button to unlock the driver door. Press the button again within three seconds to unlock all doors. The direction indicators will flash.



# Doors and Locks

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. The direction indicators will flash twice to indicate a change to the unlocking mode. Driver door mode only unlocks the driver door when you press the unlock button once. All door mode unlocks all doors 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. The direction indicators will flash. Press the button again within three seconds to confirm that all the doors are closed.

The doors will lock again, the horn will sound and the direction indicators will flash if all the doors and the luggage compartment are closed.

## Locking and Unlocking the Doors with the Key Blade

### Locking the Doors

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

### Unlocking the Doors

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

## Opening a Rear Door From the Inside

Pull the interior door handle to open a rear door.

**Note:** *If the hidden rear door locks are on and you pull the interior handle, the rear door will not open. You can only open the rear doors using the external door handle.*

## Illuminated Entry (If Equipped)

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

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 are closed and you switch the ignition off.

The lamps will 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.

## Opening the Luggage Compartment

### With the Remote Control



Press the button twice within three seconds.

# Doors and Locks

## From the Instrument Panel or Overhead Console



Press the button on the instrument panel or pull the switch down on the overhead console.

**Note:** The luggage compartment release switch in standard configuration operates when the ignition is in the run or start position. An optional configuration is available so that the switch operates when the ignition is in any position. Contact an authorized dealer to change these settings.

**Note:** The luggage compartment release switch on both the instrument panel and overhead console function the same.

## INTERIOR LUGGAGE COMPARTMENT RELEASE



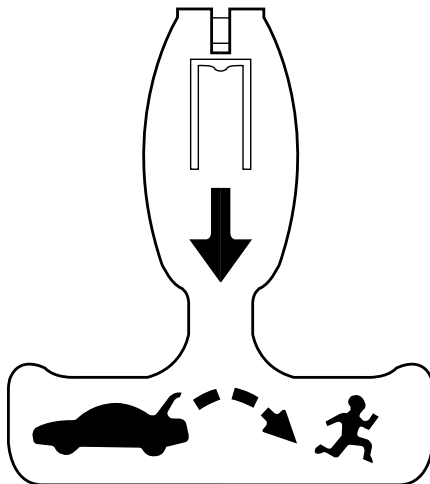
**WARNING:** Keep vehicle doors and luggage compartment locked and keep keys and remote transmitters out of a child's reach. Unsupervised children could lock themselves in the trunk and risk injury. Children should be taught not to play in vehicles.



**WARNING:** Do not leave children or animals unattended in the vehicle. On hot days, the temperature in the trunk or vehicle interior 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.

Your vehicle is equipped with a release handle that provides a means of escape for children and adults if they become locked inside the luggage compartment.

Adults should familiarize themselves with the operation and location of the release handle.



E144403

The handle is located inside the luggage compartment either on the luggage compartment door (lid) or near the tail lamps. It is composed of a material that will glow for hours in darkness following brief exposure to ambient light.

Pull the handle and push up on the luggage compartment door (lid) to open from within the luggage compartment.

## 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 53).

### 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.

# 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.



E274857

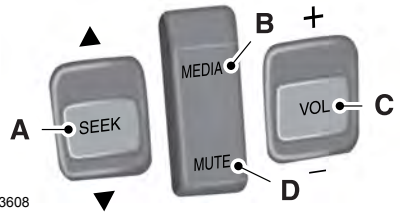
1. Unlock the steering column.
2. Adjust the steering wheel to the desired position.



E274859

3. Lock the steering column.

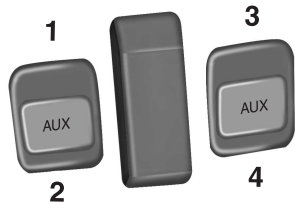
## AUDIO CONTROL



E173608

- A Seek up and down or next and previous.
- B Media.
- C Volume up or down.
- D Mute.

## Auxiliary Steering Wheel Controls (If Equipped)



E260044

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

## VOICE CONTROL

The controls are on the steering wheel.



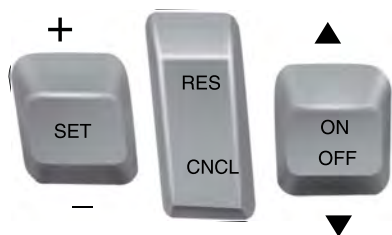
Press and release to activate voice recognition.

# Steering Wheel



Press and release to connect or disconnect a phone call.

## CRUISE CONTROL



E173610

See **Cruise Control** (page 130).

## INFORMATION DISPLAY CONTROL



E173617

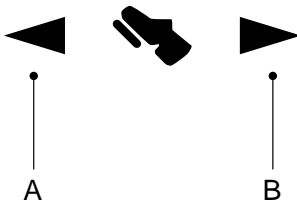
See **Information Displays** (page 74).

## ADJUSTING THE PEDALS



**WARNING:** Never use the controls while your feet are on the accelerator and brake pedals and the vehicle is moving.

You can find the control on the left side of the steering column. Press and hold the appropriate side of the control to move the pedals.



E162916

A. Farther.

B. Closer.

**Note:** *Adjust the pedals only when your vehicle is in park (P).*

# Wipers and Washers

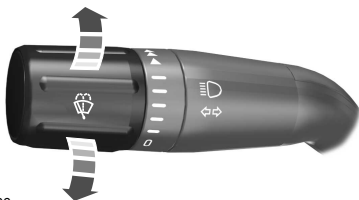
## WINDSHIELD WIPERS

**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.



E213986

- Rotate away from you for a long wipe interval.
- Rotate toward you for a 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 washers 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.



E213988

- 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.

# 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.

### Silent Mode (If Equipped)

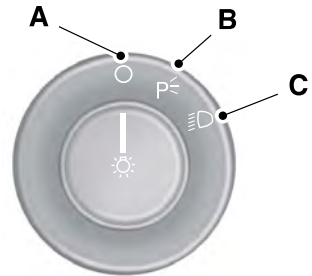
You can switch on Silent Mode in the information display. See **Information Displays** (page 74).

When you enable Silent Mode, the following features may be disabled:

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

**Note:** *Silent Mode does not disable the daytime running lamps in markets that mandate this feature by law.*

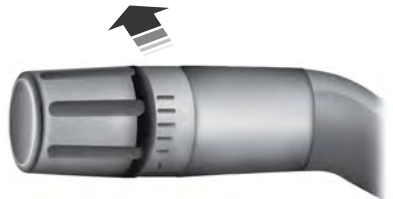
## LIGHTING CONTROL



E213912

- A Off.
- B Parking lamps, instrument panel lamps, license plate lamps and rear lamps.
- C Headlamps.

## High Beams



E167827

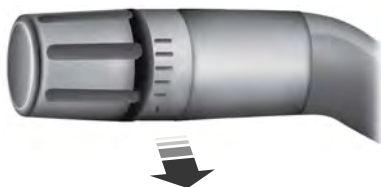
Push the lever away from you to switch the high beam on.

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



# Lighting

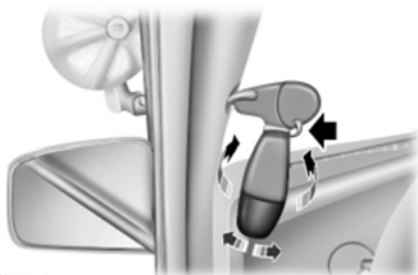
## Headlamp Flasher



E163268

Slightly pull the lever toward you and release it to flash the headlamps.

## Spot Lamp Control (If Equipped)



E203952

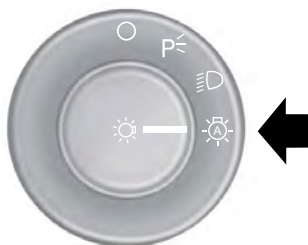
Use the switch on the chrome handle to turn the spot lamp on and off.

Rotate and twist the handle to adjust the position of the spot lamp.

## AUTOLAMPS (If Equipped)



**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.



E224686

When the lighting control is in the autolamps position, the headlamps turn on in low light situations, or when the wipers turn on.

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.

# Lighting

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 autolamps and autowipers on, the headlamps turn on when the windshield wipers continuously operate.*

## INSTRUMENT LIGHTING DIMMER

**Note:** *If you disconnect and connect the battery, or fully discharge and charge the battery, the illuminated components turn to the maximum setting.*



E173259

Repeatedly press or press and hold it to adjust the level.

If the vehicle is not equipped with the Dark Car feature, or is equipped with the Silent Car feature and Silent Mode is not enabled, press and hold the top of the control to the full on position to turn on the "dome on" feature. This turns on the interior courtesy lights. Press and hold the bottom of the control to switch off the interior courtesy lights.

On vehicles with the Dark Car or Silent Mode feature, courtesy illumination turns off when you switch Silent Mode on. Press and hold the bottom of the control to switch the instrument cluster lights off and the information display illuminates.

## HEADLAMP EXIT DELAY

Set the delay time to keep the headlamps on for up to three minutes after switching off the ignition.

Follow the steps below to change the delay time:

**Note:** *Complete steps 1 through 6 within 10 seconds.*

1. Switch the ignition off.
2. Select the autolamp position on the lighting control.
3. Switch the lighting control to the off position.
4. Switch the ignition on.
5. Switch the ignition off.
6. Select the autolamp position on the lighting control. The headlamps and parking lamps turn on.
7. Switch the lighting control to the off position when reaching the required delay time. The headlamps and parking lamps turn off.

Set the headlamp exit delay to one of the following settings:

- Off.
- 10 seconds.
- 20 seconds.
- 120 seconds.

**Note:** *Adjust the time delay using the display controls in the information display. See **Information Displays** (page 74).*

# Lighting

## DAYTIME RUNNING LAMPS (if Equipped)



**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 daytime running lamps turn on when:

1. Switching the ignition on.
2. The lighting control is in the off position, parking lamps or the autolamps position, and the sensor detects daylight.
3. Your vehicle is in drive (D).

**Note:** Switch the daytime running lamps on or off by selecting Police Silent Mode in the information display. See **General Information** (page 74).

**Note:** In markets where daytime running lamps are mandated by law, Silent Mode does not disable the daytime running lamps.

## DIRECTION INDICATORS



E163272



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

### Front Map Lamps (if Equipped)



E163273

The lamps turn on under the following conditions:

- You open any door.
- You press a remote control button.
- You press the instrument panel dimmer button until the courtesy lamp turns on.

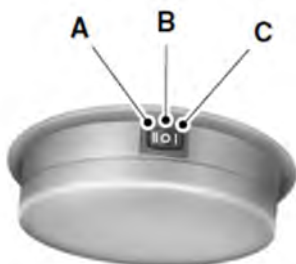
To switch on the map lamps, press the outer edge of the clear lens.

**Note:** On vehicles with the Dark Car or Silent Mode feature, courtesy illumination turns off when you switch Silent Mode on.

# Lighting

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## Dome Task Lamp (If Equipped)



E203953


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


Your vehicle has a red or white dome task lamp located in the headliner.

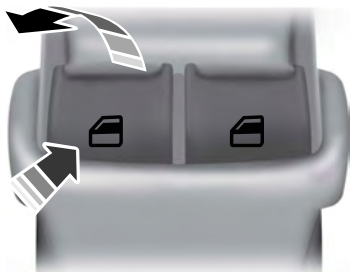
**Note:** *Prolonged use of the dome task lamps causes the battery to run out of charge.*

# 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.



E146043

**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:** The one-touch down feature is for the driver side only.

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

### One-Touch Up


**Note:** The one-touch up feature is for the driver side only.

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

## Bounce-Back

The window stops automatically while closing.

## 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.

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. The window stops if you release the switch before the window fully closes.

## Window Lock



E144072

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

# Windows and Mirrors

## 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.



E144073

- 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 85).

## Integrated Blind Spot Mirror (If Equipped)

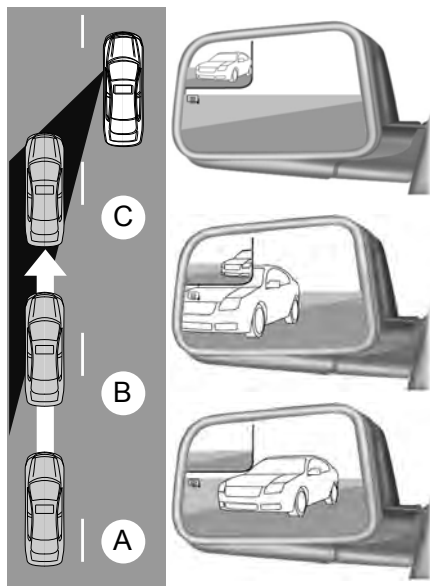


**WARNING:** Objects in the blind spot mirror are closer than they appear.

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.

# Windows and Mirrors



E138665

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 132).

## 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.

## 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.

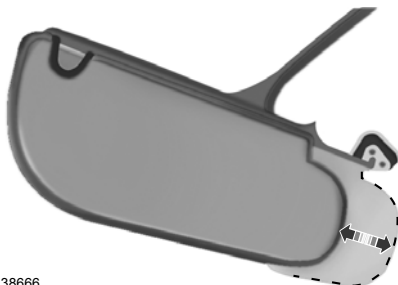
The mirror dims to reduce the effect of bright light from behind. It returns to normal when the bright light from behind is no longer present or if you shift into reverse (R).

# Windows and Mirrors

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## SUN VISORS

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



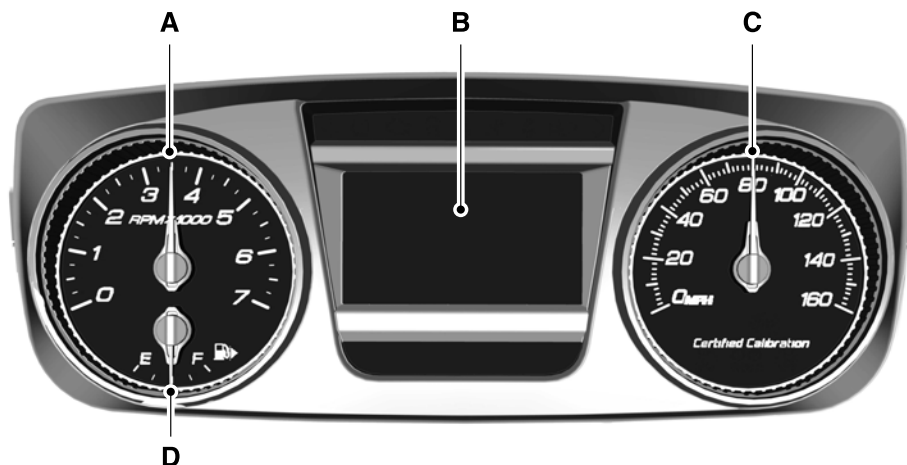
E138666

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



# Instrument Cluster

## GAUGES



E213954

- A Tachometer.
- B Information display. See **General Information** (page 74).
- C Speedometer.
- D Fuel gauge.

## Information Display

### Vehicle Settings and Personalization

See **General Information** (page 74).

## 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.*

# Instrument Cluster

## 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).

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

## 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.

## Airbag readiness



If this light fails to illuminate when the ignition is turned on, continues to flash or remains on, contact your authorized dealer as soon as possible. A chime will sound when there is a malfunction in the indicator light.

## Anti-Lock Braking System



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

## Brake System



**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.



It illuminates when you engage the parking brake with the ignition on.

If it illuminates when you are driving, check that the parking brake is not engaged. If the parking brake is not engaged, this indicates low brake fluid level or a brake system malfunction. Have the system checked immediately by an authorized dealer.

## Charging System



It illuminates when the battery is not charging properly. If it stays on while the engine is running, there may be a malfunction with the charging system. Contact your authorized dealer as soon as possible. This indicates a problem with the electrical system or a related component.

## Cruise Control (If Equipped)



It illuminates when you switch this feature on.

# Instrument Cluster

## Direction Indicator



Illuminates when you switch on the left or right direction indicator or the hazard warning flasher. If the indicators stay on or flash faster, check for a burned out bulb. See **Changing a Bulb** (page 193).

## Door Ajar



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

## Engine Coolant Temperature



Illuminates when the engine coolant temperature is high. Stop the vehicle as soon as possible, switch off the engine and let cool. See **Engine Coolant Check** (page 181).

## Engine Oil



If it illuminates with the engine running or when you are driving, this indicates a malfunction.

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 179).

**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



It illuminates and a chime sounds to remind you to fasten your seatbelt. See **Seatbelt Reminder** (page 34).

## High Beam



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

## Low Fuel Level



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

## Low Tire Pressure Warning



It 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



It illuminates when the windshield washer fluid is low.

## Parking Lamps



It illuminates when you switch the parking lamps on.

## Police Engine Idle feature



Illuminates when Police Idle System is armed and active.

# Instrument Cluster

## Powertrain Fault



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

## Service Engine Soon



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

If it flashes, engine misfire may be occurring. Increased exhaust gas temperatures could damage the catalytic converter or other vehicle components. Drive in a moderate fashion (avoid heavy acceleration and deceleration) and have your vehicle immediately serviced.

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 malfunctions 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 **Emission Law** (page 106).

## 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 malfunction. During a malfunction the system switches off. Have the system checked by an authorized dealer immediately. See **Using Stability Control** (page 125).

## Stability Control Off



It 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 125).

## AUDIBLE WARNINGS AND INDICATORS

### Key in Ignition Warning Chime

Sounds when the key is left in the ignition and the driver's door is opened.

### Headlamps On Warning Chime

Sounds when the headlamps or parking lamps are on, the ignition is off (the key is not in the ignition) and the driver's door is opened.

### 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.

# 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 information display controls on the steering wheel. Corresponding information appears in the information display.

## Information Display Controls



E213997

- Press the up and down arrow buttons to scroll through and highlight the options within a menu.
- Press the right arrow button to enter a submenu.
- Press the left arrow button to exit a submenu.
- Press the **OK** button to choose and confirm settings or messages.



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

# Information Displays

## Trip 1 & 2

You can access the menu using the information display control.

**Note:** Some options may appear slightly different or not at all if the items are optional.

Trip 1 & 2
Digital Speedometer
Trip Odometer
Trip Timer
Average Fuel

- Digital Speedometer - Shows a digital display of your vehicle speed.
- Trip Odometer — Registers the distance of individual journeys.
- Trip Timer — The timer stops when you turn your vehicle off and restarts when you restart your vehicle.
- Average Fuel — Shows the average fuel economy for a given trip.

**Note:** Press and hold **OK** on the current screen to reset the respective trip, distance, time and fuel information.

## Fuel Economy

Fuel Economy
Dist to empty
Inst Fuel Econ
Average Fuel

- Distance to Empty - Shows the approximate distance your vehicle can travel before running out of fuel.
- Inst Fuel Economy - Shows a visual graph of your instantaneous fuel economy along with your Avg MPG since the function was last reset.
- Average Fuel — Shows the average fuel economy since last reset.

**Note:** You can reset your average fuel economy by pressing and holding the **OK** button on the left hand steering wheel controls.

# Information Displays

## Information

Information
Coolant Temp. — The engine coolant indicator changes colors indicating: blue for cool, gray for normal and red for hot. If the engine coolant temperature exceeds the normal range, stop the vehicle as soon as safely possible, switch off the engine and let the engine cool.
Engine hours — Displays the hours of engine run time.
Engine Idle hours — Indicates how much time the vehicle idles in Park or Neutral.

## Settings

**Note:** Some items are optional and may not appear.

In this mode, you can configure different driver setting choices.

Settings			
Driver Assist	Traction Ctrl		
	Blindspot		
	Cross Traffic		
	Rear Park Aid		
Display	Language	Choose your applicable setting.	
	Units	Distance	Choose your applicable setting.
		Temperature	
Convenience	DTE calculation	Choose your applicable setting.	
	Locks	Remote Unlock	Choose your applicable setting.
	Oil Life Reset	Oil Life Reset XXX% — Hold <b>OK</b> to Reset	
	Silent Mode		
	Wipers	Courtesy Wipe	

# Information Displays

## INFORMATION MESSAGES

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



E213998

Press the **OK** button to acknowledge and remove some messages from the information display. Other messages delete automatically after a short time. You need to confirm certain messages before you can access the menus.

## AdvanceTrac™

Message	Action
Service AdvanceTrac	Displayed when the AdvanceTrac® system has detected a condition that requires service. Contact your authorized dealer as soon as possible.
AdvanceTrac Off On	The driver has disabled or enabled the traction control.

## Alarm

Message	Action
Vehicle Alarm To Stop Alarm, Start Vehicle.	Displayed when the perimeter alarm system is armed and the vehicle is entered using the key on the driver's side door. In order to prevent the perimeter alarm system from triggering, the ignition must be turned to start or on before the 12 second chime expires.



## Information Displays

### AWD

Message	Action
AWD OFF	Displays if the AWD system disables to protect itself. This may occur if you operate the vehicle after installing the compact spare tire, if the system is overheating or if there is an issue with another vehicle system that prevents the AWD system from operating. The AWD system resumes normal operation and clears this message after you install the road tire and you switch the ignition on and off, or after you allow the system to cool. If this message remains on, have a qualified technician service your vehicle to repair other vehicle systems.
Check AWD	Displayed in conjunction with the powertrain 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.
Change AWD Power Transfer Unit Lube	Displayed when the system needs its power transfer unit lubrication changed. This message may be set if the vehicle has experienced extended periods of extreme/severe duty cycle driving.

### Battery and Charging System

Message	Action
Check Charging System	Displayed when the charging system needs servicing. If the warning stays on or continues to come on, contact your authorized dealer as soon as possible.
Low Battery Features Temporarily Turned Off	The battery management system detects an extended low voltage condition. Your vehicle will disable various features to help preserve the battery. Turn off as many of the electrical loads as soon as possible to improve the system voltage. Once the system voltage recovers, the disabled features will operate as normal.
Turn Power Off To Save Battery	The battery management system determines that the battery is at a low state of charge. Switch the ignition off as soon as possible to protect the battery. This message clears once you start the vehicle and the battery state of charge has recovered. Turning off unnecessary electrical loads allows faster battery state-of-charge recovery.

# Information Displays

## Blind Spot Information and Cross Traffic Alert System

Message	Action
Blindspot System Fault	Displayed when a fault with the blind spot information system has occurred. Contact your authorized dealer as soon as possible.
Blindspot Not Available Sensor Blocked See Manual	Displayed when the blind spot information system/cross traffic alert system sensors are blocked. Driver can typically clean the sensor to resolve.
Vehicle Coming From X	Displayed when the blind spot information system with cross traffic alert (CTA) system is operating and senses a vehicle.
Cross Traffic Not Avail- able Sensor Blocked See Manual	Displayed when the blind spot information system/cross traffic alert system sensors are blocked. Driver can typically clean the sensor to resolve.
Cross Traffic System Fault	Displayed when a fault with the cross traffic alert system has occurred. Contact your authorized dealer as soon as possible.

## Brake System

Message	Action
Brake Fluid Level Low	Indicates the brake fluid level is low and the brake system should be inspected immediately.
Check Brake System	Displayed when the brake system needs servicing. If the warning stays on or continues to come on, contact your authorized dealer as soon as possible.
Park Brake Engaged	Displayed when the parking brake is set, the engine is running and the vehicle is driven more than 3 mph (5 km/h). If the warning stays on after the parking brake is released, contact your authorized dealer as soon as possible.

## Doors and Locks

Message	Action
Trunk Ajar	The liftgate is not completely closed.
X Door Ajar	Displayed when a door is not completely closed.

# Information Displays

## 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.

## Maintenance

Message	Action
Low Engine Oil Pressure	Stop your vehicle as soon as safely possible. Switch off the engine. Check the oil level. If the warning stays on or continues to come on with your engine running, contact an authorized dealer as soon as possible.
Change Engine Oil Soon	Displayed when the engine oil life remaining is 10% or less.
Oil Change Required	Displayed when the oil life left reaches 0%.
Engine Coolant Over Temperature	Displayed when the engine coolant temperature is excessively high.
Washer Fluid Level Low	Indicates the washer fluid reservoir is less than one quarter full. Check the washer fluid level.
Transport Mode Contact Dealer	Indicates that your vehicle is still in Transport mode. This may not allow some features to operate properly. Contact an authorized dealer.
Factory Mode Contact Dealer	Indicates that your vehicle is still in Factory mode. This may not allow some features to operate properly. Contact an authorized dealer.

## Park Aid

Message	Action
Check Park Aid	Displayed when the transmission is in R (Reverse) and the park aid is disabled.
Check Rear Park Aid	Displayed when the transmission is in R (Reverse) and the park aid is disabled.
Rear Park Aid On Off	Displays the park aid status.

# Information Displays

## Police Engine Idle feature

Message	Action
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

Message	Action
Steering malfunction Service now	The power steering system has detected a condition that requires service. Contact an authorized dealer.
Service Power Steering Now	The power steering system is not working. Stop your vehicle at a safe place. Contact an authorized dealer.
Power Steering Assist Fault	The power steering system has detected a condition within the power steering system, or passive entry or passive start system requires service. Contact an authorized dealer.

## Reminder Messages

Message	Action
Shift to Park	Displays as a reminder to shift into park.
Engine ON	Displayed when the engine is on, the vehicle is in park and the driver's door is opened.
Speed Limited to xx MPH/km/h	Displayed at key on when the vehicle's top speed is limited.

# Information Displays

## 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.

## 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 218).
Tire Pressure Monitor Fault	The tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, contact an authorized dealer. See <b>Tire Pressure Monitoring System</b> (page 218).
Tire Pressure Sensor Fault	A tire pressure sensor is malfunctioning, or your spare tire is in use. If the warning stays on or continues to come on, contact an authorized dealer as soon as possible. See <b>Tire Pressure Monitoring System</b> (page 218).

## Traction Control

Message	Action
Traction Control Off	Displays the status of the traction control system. See <b>Using Traction Control</b> (page 123).

# Climate Control

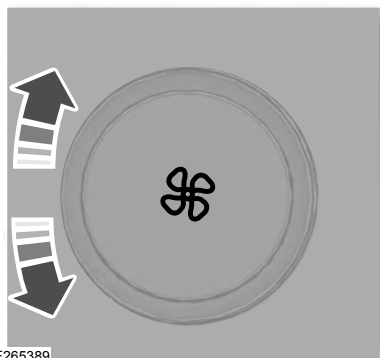
## MANUAL CLIMATE CONTROL

### Directing the Air



Press and release the button to direct air between the instrument panel air vents, footwell air vents and windshield air vents and de-mister.

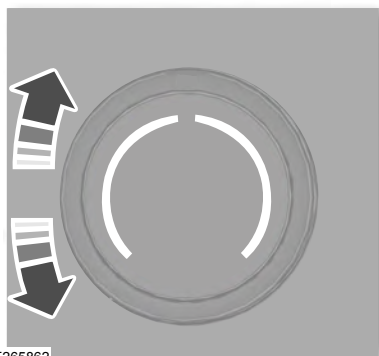
### Setting the Blower Motor Speed



E265389

Turn the control to adjust the volume of air circulated in the vehicle.

### Setting the Temperature



E265862

Turn the control to set the temperature.

### Switching the Air Conditioning On and Off



Press and release the button to switch the air conditioning on or off.

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

**Note:** In certain conditions (for example, maximum defrost), the air conditioning compressor may continue to operate even though you switch off the air conditioning.

### Switching the Climate Control On and Off



Press and release the button.

### Switching Defrost On and Off



Press and release the button to distribute air through the windshield air vents and de-mister.

# Climate Control

Air directed to the instrument panel and footwell air vents turns off. You can also use this setting to defog and clear the windshield of a thin covering of ice.

## Switching Maximum Air Conditioning On and Off



Press and release the button for maximum cooling.

The left-hand and right-hand settings 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 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 in order 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.*

## Quickly Heating the Interior

1. Adjust the blower motor speed to the highest speed setting.
2. Adjust the temperature control to the highest setting.
3. Direct air to the footwell air vents.

## Recommended Settings for Heating

1. Adjust the blower motor speed to the center setting.
2. Adjust the temperature control to the midway point of the hot settings.
3. Direct air to the footwell air vents.

## Quickly Cooling the Interior

1. Select **MAX A/C**.
2. Drive with the windows open for a short period of time.

## Recommended Settings for Cooling

1. Adjust the blower motor speed to the center setting.
2. Adjust the temperature control to the midway point of the cold settings.

# Climate Control

3. Direct air to the instrument panel air vents.

## Vehicle Stationary for Extended Periods During Extreme High Ambient Temperatures

1. Apply the parking brake.
2. Place your vehicle in park (P) or neutral.
3. Select **MAX A/C**.
4. Adjust the blower motor speed to the lowest speed setting.

## Defogging the Side Windows in Cold Weather

1. Direct air to the instrument panel and windshield air vents.
2. Press and release **A/C**.
3. Adjust the temperature control to the setting you prefer.
4. Adjust the blower motor speed to the highest setting.
5. Direct air toward the side windows.
6. Close the instrument panel air vents.

## 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:** Make sure the engine is on before operating the heated windows.

**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 may not cover damage caused 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.

## CABIN AIR FILTER (If Equipped)

Your vehicle is equipped with a cabin air filter, which gives you and your passengers the following benefits:

- It improves your driving comfort by reducing particle concentration.
- It improves the interior compartment cleanliness.
- It protects the climate control components from particle deposits.

You can locate the cabin air filter behind the glove box.

**Note:** Make sure you have a cabin air filter installed at all times. This prevents foreign objects from entering the system. Running the system without a filter in place could result in degradation or damage to the system.

Replace the filter at regular intervals. See **Scheduled Maintenance** (page 299).

For additional cabin air filter information, or to replace the filter, see an authorized dealer.



# Seats

## SITTING IN THE CORRECT POSITION



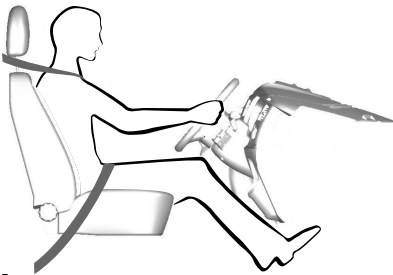
**WARNING:** Sitting improperly, out of position or with the seatback reclined too far can take weight off the seat cushion and affect the decision of the passenger sensing system, resulting in serious injury or death in the event of a crash. Always sit upright against your seat back, with your feet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



**WARNING:** Do not recline the seatback too far as this can cause the occupant to slide under the seatbelt, resulting in serious injury in the event of a collision.



**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.



E68595

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° 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:** To minimize the risk of neck injury in the event of a crash, the driver and passenger occupants should not sit in or operate the vehicle, until the head restraint is placed in its proper position. The driver should never adjust the head restraint while the vehicle is in motion.

# Seats



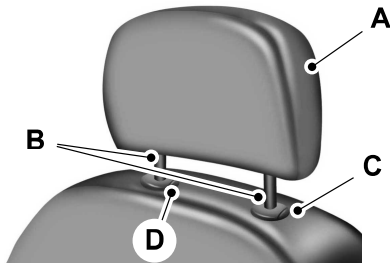
**WARNING:** The adjustable head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. An improperly adjusted head restraint may provide reduced protection to an occupant during certain rear impacts.



**WARNING:** Install the head restraint properly to help minimize the risk of neck injury in the event of a crash.

**Note:** *Adjust the seatback 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.*

## Front seat head restraints



E138642

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 unlock and remove button.

## Adjusting the Head Restraint

### 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.

### Removing the Head Restraint

1. Pull the head restraint up until it reaches its highest position.
2. Insert a tool, such as a large paper clip, into the pin hole located on the side of the guide sleeve adjust and release button (D).
3. Press and hold buttons C and D.
4. Pull the head restraint up.

### Installing the Head Restraint

Align the steel stems into the guide sleeves and push the head restraint down until in locks.

### Tilting Head Restraints (If Equipped)

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

# Seats



E144727

1. Adjust the seatback to an upright driving or riding position.
2. Pivot the head restraint forward toward your head to the desired position.

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

## MANUAL SEATS

### 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.



E190838

### Recline Adjustment



**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.



E201584

# Seats

## Lumbar Adjustment (If Equipped)



E201585

The control is located on the outboard side of the seat. Move the switch in the direction of the arrow to raise or lower the seat cushion or to move the seat forward, backward, up or down.

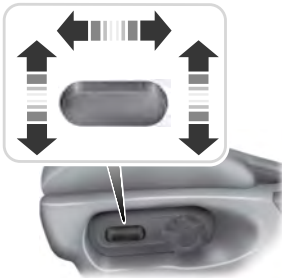
## POWER SEATS



**WARNING:** Do not adjust the driver seat or seatback when your vehicle is moving. Adjusting your seatback while your vehicle is in motion may cause loss of control of your vehicle.



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



E201586

# Auxiliary Power Points

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## 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.*

*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.

## Locations

Power points may be in the following locations:

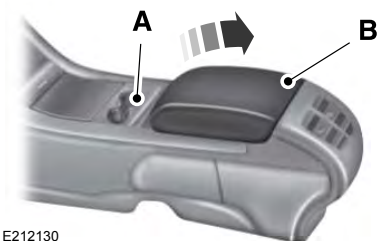
- On the front of the center console.
- Inside the center console.

# Storage Compartments

## CENTER CONSOLE

Stow items in the cup holder carefully as items may become loose during hard braking, acceleration or crashes, including hot drinks which may spill.

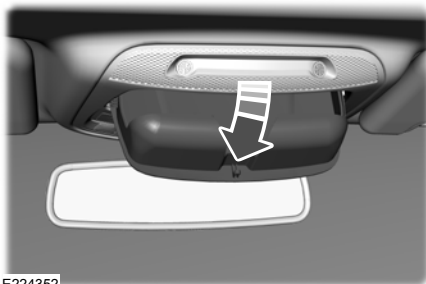
Available console features include:



E212130

- A Cup holder.
- B Storage compartment.

## OVERHEAD CONSOLE



E224352

Press near the rear edge of the door to open it.

## Console Mounting Plates (If Equipped)

You should only remove and replace the mounting plates during the upfitting process. They should not be removed permanently.

## Universal Top Tray (If Equipped)

You can remove the trim on the top of the instrument panel to aid in upfitting aftermarket accessories or mounting equipment.

# 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.



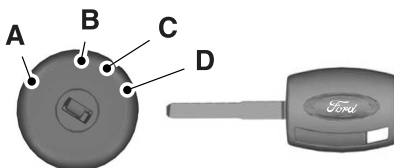
**WARNING:** Exhaust leaks may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have your vehicle inspected immediately. Do not drive if you smell exhaust fumes.

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



E180794

**A (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.

**Note:** To switch the engine off when your vehicle is moving, move the transmission selector lever to position **N**. Use the brakes to bring the vehicle to a safe stop. After your vehicle has stopped, switch the engine off and move the transmission selector lever to position **P**. Turn the key to position **A** or **B**.

**B (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.

**C (on)** - All electrical circuits operational. Warning lamps and indicators illuminate.

**D (start)** - cranks the engine. Release the key as soon as the engine starts.

# Starting and Stopping 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.

**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).

To start the engine, do the following:

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

1. Fully depress the brake pedal.
2. Turn the key to the start position 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 press the accelerator pedal and hold it there.
4. Start the engine.

## Cold Weather Starting - Flex Fuel Vehicles



**WARNING:** Do not use starting fluid, for example ether, in the air intake system. Such fluid could cause immediate explosive damage to the engine and possible personal injury.

The starting characteristics of all grades of E85 ethanol make it unsuitable for use when ambient temperatures fall below 0°F (-18°C). Consult your fuel distributor for the availability of winter grade ethanol. As the outside temperature approaches freezing, ethanol fuel distributors should supply winter grade ethanol, the same as with unleaded gasoline. If summer grade ethanol is used in cold weather conditions, 0°F to 32°F (-18°C to 0°C), you may experience increased cranking times, rough idle or hesitation until the engine has warmed up.

You may experience a decrease in peak performance when the engine is cold when operating on E85 ethanol.

Do not crank the engine for more than 10 seconds at a time. This may cause damage to the starter motor. If the engine does not start, turn the key to the off position and wait 30 seconds before trying again.



# Starting and Stopping the Engine

If your vehicle does not start on E85 ethanol, and neither an alternative brand of E85 ethanol nor an engine block heater is available, the addition of unleaded gasoline to the fuel tank improves cold starting performance.

If the engine fails to start, do the following:

1. Press the accelerator pedal down one-third to one-half of its travel, and then crank the engine.
2. When the engine starts, release the key, then gradually release the accelerator pedal as the engine speed increases. If the engine still does not start, repeat Step 1.

## Stopping the Engine When Your Vehicle is Stationary

1. Shift into park (P).
2. Turn the key to the off position.
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 switch the ignition off.
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.

## 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 (3 cm).
- Set your climate control to outside air.

## ENGINE BLOCK HEATER



**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).

# Starting and Stopping the Engine

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.
- 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.

## 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

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

# Starting and Stopping the Engine

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1. With your vehicle running and the transmission in park (P), press the button on the instrument panel. See **Instrument Panel Overview** (page 16). A warning lamp illuminates to confirm the system is on. See **Warning Lamps and Indicators** (page 71).
2. Switch the ignition off and remove the key.

When the system is on:

- The power window switches are disabled and the windows remain in their current state.
- The luggage compartment or liftgate unlock switch is disabled.

**Note:** *When the system is on, you can use the key blade 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.*

# 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.

## 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.

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 and Refueling



E161513

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 144).

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.

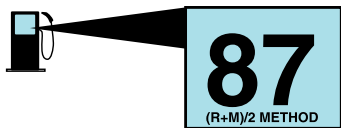
## Switching Between E85 and Gasoline

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



E161513

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 144).

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 under the luggage compartment floor covering.

## 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 99).

**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



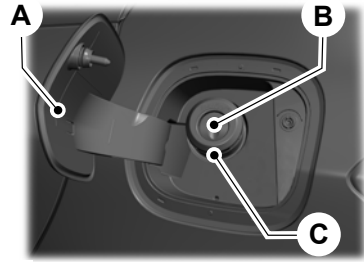
E157452

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.

## REFUELING

### Refueling System Overview



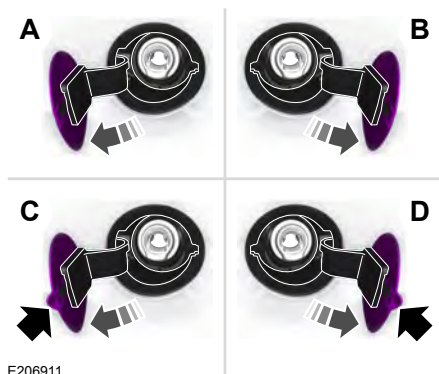
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- A Fuel filler door.
- B Fuel tank filler valve.
- C Fuel tank filler pipe.

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.



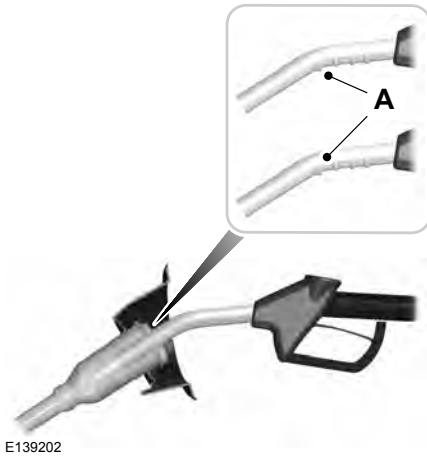
**WARNING:** Do not overfill the fuel tank. The pressure in an overfilled tank may cause leakage and lead to fuel spray and fire.



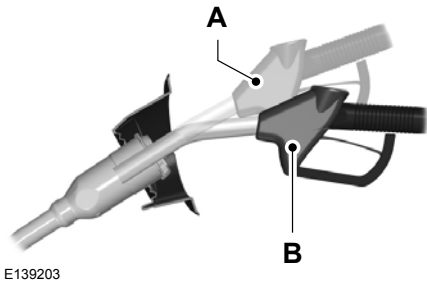
**WARNING:** Wait at least five seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

1. Fully open the fuel filler door.
2. Select the correct fuel pump nozzle for your vehicle.

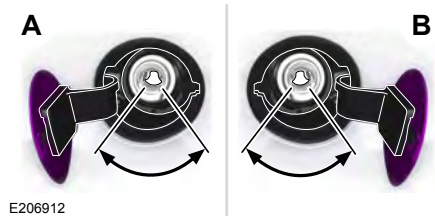
# Fuel and Refueling



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.



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.



5. Operate the fuel pump nozzle within the area shown.



6. When you finish refueling 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 not covered by the vehicle Warranty. Have your vehicle immediately checked.

## 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 99). 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, have your vehicle checked as soon as possible.*

## 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 235).

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.*

### Filling the Fuel Tank

For consistent results when refueling:

- Turn the ignition off before fueling; an inaccurate reading results if the engine is left running.
- Use the same fill rate (low-medium-high) each time the tank is filled.
- Allow no more than one automatic shut-off when refueling.

Results are most accurate when the filling method is consistent.

### Calculating Fuel Economy

Your vehicle calculates fuel economy figures through the trip computer average fuel function. See **Information Displays** (page 74).

The first 1,000 mi (1,500 km) of driving is the break-in period of the engine. A more accurate measurement is obtained after 2,000 mi (3,000 km).

1. Completely fill the fuel tank and record the initial odometer reading. See **Refueling** (page 101).
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.

# Fuel and Refueling

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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

- Heavily loading your vehicle reduces fuel economy.
- Carrying unnecessary weight in your vehicle may reduce fuel economy.
- Avoid adding accessories that increase aerodynamic drag to your vehicle such as bug deflectors, car top carriers and ski or bike racks.
- Using fuel blended with alcohol may lower fuel economy.
- Fuel economy may decrease with lower temperatures.
- Fuel economy may decrease when driving short distances.
- You will get better fuel economy when driving on flat terrain than when driving on hilly terrain.

# 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 154).
- 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 101).
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.



# Transmission

## AUTOMATIC TRANSMISSION



**WARNING:** Always apply the parking brake fully and make sure you shift into park (P). Switch the ignition off and remove the key whenever you leave your vehicle.



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

### 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).



E206672

#### Park (P)

This position locks the transmission and prevents the wheels from turning.

#### Reverse (R)

With the gearshift lever in reverse (R), your vehicle will move backward. Always come to a complete stop before shifting into and out of reverse (R).

#### Neutral (N)

With the gearshift lever in neutral (N), your vehicle can be started and 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 one through six.

#### Low (L)

The low (L) button is located at the end of the column shifter. Activating low (L) gear:

- Provides maximum engine braking.
- Will downshift to the lowest available gear for the current vehicle speed; allows for first gear when vehicle reaches lower speeds.
- Is not intended for use under extended or normal driving conditions and results in lower fuel economy.

#### Brake-Shift Interlock



**WARNING:** Do not drive your vehicle until you verify that the brake lamps are working.

# Transmission



**WARNING:** When doing this procedure, you need to take the transmission out of park (P) which means your vehicle can roll freely. To avoid unwanted vehicle movement, always fully apply the parking brake prior to doing this procedure. Use wheels chocks if appropriate.



**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.

Your vehicle is equipped with a brake-shift interlock feature that prevents moving the gearshift lever from park (P) when the ignition is in the on position and the brake pedal is not pressed.

If you cannot move the gearshift lever out of park (P) position with the ignition in the on position and the brake pedal pressed, a malfunction may have occurred. It is possible that a fuse has blown or your vehicle's brake lamps are not operating properly. See **Fuse Specification Chart** (page 164).

If the fuse is not blown and the brake lamps are working properly, the following procedure will allow you to move the gearshift lever from park (P):

1. Apply the parking brake. Turn the ignition key to the off position, then remove the key.
2. Move the steering column to the full down and full rearward position (toward the driver's seat).
3. Remove the gearshift lever boot.

4. Place fingers into gearshift lever boot hole and pull top half of shroud up and forward to separate it from the lower half of the shroud. There is a hinge at the forward edge of the top shroud. Roll the top half of the shroud upward on the hinge point to clear the hazard flasher button, then pull straight rearward toward the driver's seat to remove.
5. Remove the top half of the shroud.
6. Remove the three fasteners under the column that secure the lower shroud half to the column.



E163185

7. Pull the tilt steering lock lever into the full unlocked position and remove the lower shroud cover by pulling the lever handle through the slot in the cover.



E163186

8. Apply the brake, pull the white disk then move the shifter to neutral (N).

# Transmission

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## 9. Start your vehicle.

Perform Steps 4 through 8 in reverse order, making sure to engage the hinge pivots between the upper and lower halves of the shroud. Keep slight pressure in the forward direction as the halves rotate together.

See your authorized dealer as soon as this procedure is used.

## **Automatic Transmission Adaptive Learning**

This feature is designed to increase durability and provide consistent shift feel over the life of the vehicle. A new vehicle or transmission may have firm shifts, soft shifts or both. This operation is considered normal and will not affect function or durability of the transmission. Over time, the adaptive learning process will fully update transmission operation. Additionally, whenever the battery is disconnected or a new battery installed, the strategy must be relearned.

## **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 may occur.*

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

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.

## All-Wheel Drive (If Equipped)

### USING ALL-WHEEL DRIVE

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 active all the time 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 in which driving surfaces are relatively level, obstruction-free and otherwise similar to normal on-road driving conditions. Operating your vehicle under other than those conditions could subject the vehicle to excessive stress which might result in damage which is not covered under your warranty.

**Note:** The Power Transfer Unit (PTU) does not require any normal scheduled maintenance. The system is electronically monitored and notifies the driver of required service by displaying the message **Change AWD Power Transfer Unit Lube** in the information display. The PTU lubricant will be more likely to require a fluid change if the vehicle has experienced extended periods of extreme or severe duty cycle driving. Do not check or change the PTU lubricant unless the unit shows signs of leakage or a message indicating required service is displayed. Contact an authorized dealer for service if the PTU was submerged in water and to reset the PTU lube life monitor.

**Note:** When an AWD system fault is present, the warning **Check AWD** displays in the information display. The AWD system is not functioning correctly and defaulted to front-wheel drive. When this warning displays, have your vehicle serviced at an authorized dealer.

**Note:** The **AWD OFF** message may also appear in the information display if the AWD system overheats and defaults to front-wheel drive. This may occur if the vehicle is operated in extreme conditions with excessive wheel slip, such as deep sand. 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 has been restarted and the AWD system has adequately cooled, the **AWD OFF** message will turn off and normal AWD function returns. If the engine is not stopped, the **AWD OFF** message turns off when the system cools and normal AWD function returns.

### All-Wheel Drive Messages

AWD Messages	Action / Description
AWD OFF	Displays if the AWD system disables to protect itself. This may occur if you operate the vehicle after installing the compact spare tire, if the system is overheating or if there is an issue with another vehicle system that prevents the AWD system from

## All-Wheel Drive (If Equipped)

AWD Messages	Action / Description
	operating. The AWD system resumes normal operation and clears this message after you install the road tire and you switch the ignition on and off, or after you allow the system to cool. If this message remains on, have a qualified technician service your vehicle to repair other vehicle systems.
Check AWD	Displayed in conjunction with the powertrain 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.
Change AWD Power Transfer Unit Lube	Displayed when the system needs its power transfer unit lubrication changed. This message may be set if the vehicle has experienced extended periods of extreme/severe duty cycle driving.

### Operating AWD Vehicles With Spare Tires

A spare tire of a different size other than the tire provided should never be used. The AWD system may disable automatically and enter front-wheel drive only mode to protect driveline components if a non-full sized tire is installed. This condition may display an **AWD OFF** message in the information display. If there is an **AWD OFF** 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 reinstall the repaired or replaced road tire as soon as possible. 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 front-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

## All-Wheel Drive (If Equipped)

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.



**WARNING:** The use of non-recommended tires and wheels could cause steering, suspension, axle, transfer case or power transfer unit failure. If you have questions regarding tire replacement, contact your authorized dealer as soon as possible.

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 front-wheel drive or damage the AWD system. However, the AWD system is capable of tolerating any combination of new and worn tires of the same original tire size. For example, using 3 worn tread tires and 1 new tread tire all of the same original tire size, can be tolerated by the AWD system.

### Driving In Special Conditions With All-Wheel Drive (AWD)

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.

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

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

## All-Wheel Drive (If Equipped)



**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.

**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.

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 is equipped with AdvanceTrac® with Roll Stability Control™, it may be beneficial to disengage the AdvanceTrac® with Roll Stability Control™ system while attempting to rock the vehicle.

### 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 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 surface 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.

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 front-wheel drive. If this occurs, an **AWD OFF** 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 has been restarted and the AWD

## All-Wheel Drive (If Equipped)

system has adequately cooled, the **AWD OFF** message turns off and normal AWD function returns. In the event the engine is not stopped, the **AWD OFF** 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 will maximize the engine and transmission cooling capability.

Under severe operating conditions, the A/C may cycle on and off to protect overheating of the engine.

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.

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.

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.

**Note:** *Driving through deep water may damage the transmission.*

If the front or rear axle is submerged in water, have the power transfer unit (PTU) or rear axle serviced by an authorized dealer.



E143950

"Tread Lightly" is an educational program designed to increase public awareness of land-use regulations and responsibilities in our nation's 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**

**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. 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.*



## All-Wheel Drive (If Equipped)

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.

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.



E143949

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.

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 won't 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 is equipped with a four wheel (ABS), do not “pump” the brakes. See **Hints on Driving With Anti-Lock Brakes** (page 121).

## All-Wheel Drive (If Equipped)

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### ***Maintenance and Modifications***

The suspension and steering systems on your vehicle have been designed and tested to provide predictable performance whether loaded or empty and durable load carrying capability. For this reason, Ford Motor Company strongly recommends 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. Ford Motor Company recommends 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. Have the system checked by an authorized dealer. If your vehicle has continuous vibration or shudder in the steering wheel while braking, have it checked by an authorized dealer.

**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 201).

**Note:** Depending on applicable laws and regulations in the country for which your vehicle was originally built, your brake lamps may flash during heavy braking. Following this, your hazard lights may also flash when your vehicle comes to a stop.

**BRAKE** See **Warning Lamps and Indicators** (page 71).



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. Move the transmission to park (P), switch the engine off and apply the parking brake. Inspect the accelerator pedal for any interference. If none are found and the condition persists, have your vehicle towed to the nearest authorized dealer.

## Brake Assist

Brake assist detects when you rapidly brake by measuring the rate at which you press the brake pedal. It provides maximum braking efficiency as long as you press the pedal. It can also 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.



If it illuminates when you are driving, this indicates a malfunction. Your vehicle

continues to have normal braking without the anti-lock brake system function. Have your vehicle checked as soon as possible.

It also momentarily illuminates 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.



**BRAKE** It illuminates when you engage the parking brake and the ignition is on.



If it illuminates when your vehicle is moving, make sure the parking brake is disengaged. If the parking brake is disengaged, this indicates low brake fluid level or a brake system fault. Have your vehicle checked as soon as possible.

It also momentarily illuminates 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.

# Brakes

## 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.*

## PARKING BRAKE



**WARNING:** Always set the parking brake fully and make sure the transmission is locked in park (P). Failure to set the parking brake and engage park could result in vehicle roll-away, property damage or bodily injury.

To set the parking brake, press the parking brake pedal down to its fullest extent. The brake warning lamp in the instrument cluster will illuminate and remains illuminated until the parking brake is released.

To release the parking brake, press the parking brake pedal down again.

If you are parking your vehicle on a grade or with a trailer, press and hold the brake pedal down, then set the parking brake. There may be a little vehicle movement as the parking brake sets to hold the vehicle's weight. This is normal and should be no reason for concern. If needed, press and

hold the service brake pedal down, then try reapplying the parking brake. Chock the wheels if required. If the parking brake cannot hold the weight of the vehicle, the parking brake may need to be serviced or the vehicle may be overloaded.

## 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

# Brakes

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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.

### 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 74).

## Using a Switch (If Equipped)

Use the traction control switch on the instrument panel to switch the system off or on.

The switch illuminates when traction control is off.

## 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

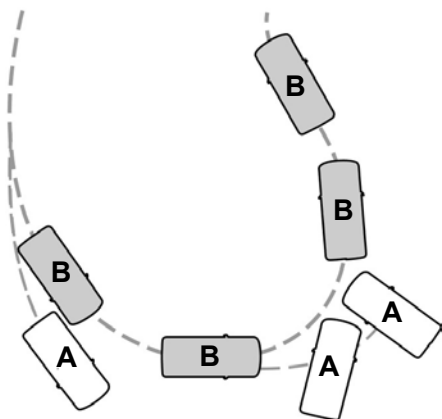
The system enhances your vehicle's ability to prevent skids or lateral slides by applying brakes to one or more of the wheels individually and, if necessary, reducing engine power.

### 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 123).

# Stability Control

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- 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 system off, but when you shift into reverse (R), the system deactivates.

You can switch the traction control system off or on. See **Using Traction Control** (page 123).



# 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 is equipped with MyKey™, the sensing system cannot be turned off when a MyKey™ is present.

**Note:** Keep the sensors, located 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 a trailer is connected to your vehicle, the rear parking aid may detect the trailer and therefore provide an alert. Disable the rear parking aid when a trailer is connected 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.

The system can be switched off through the information display menu or from the pop-up message that appears once you shift the transmission into reverse (R). See **General Information** (page 74).

If a fault is present in the system, a warning message appears in the information display. See **Information Messages** (page 77).

## REAR PARKING AID (If Equipped)

The rear sensors are only active when the transmission is in reverse (R). As your vehicle moves closer to the obstacle, the rate of the audible warning increases. When the obstacle is less than 12 in (30 cm) away, the warning sounds continuously. If the system detects a stationary or receding object farther than 12 in (30 cm) from the corners of the bumper, the tone sounds for only three seconds. Once the system detects an object approaching, the warning sounds again.

# Parking Aids



E130178

Coverage area of up to 6 ft (1.8 m) from the rear bumper. There may be decreased coverage area at the outer corners of the bumper.

The system detects certain objects while the transmission is in reverse (R) :

- Your vehicle is moving toward a stationary object at a speed of 3 mph (5 km/h) or less.
- Your vehicle is not moving, but a moving object is approaching the rear of your vehicle at a speed of 3 mph (5 km/h) or less.
- Your vehicle is moving at a speed of less than 3 mph (5 km/h) and a moving object is approaching the rear of your vehicle at a speed of less than 3 mph (5 km/h).

The system provides audio warnings only when your vehicle is moving or when your vehicle is stationary and the detected obstacle is less than 12 in (30 cm) away from the bumper.

## Obstacle Distance Indicator (If Equipped)

The system provides obstacle distance indication through the information display. The distance indicator displays when the transmission is in reverse (R).

The indicator displays:

- As the distance to the obstacle decreases the indicator blocks illuminate and move towards the vehicle icon.
- If there is no obstacle detected, the distance indicator blocks are grayed out.

## 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:** Back up as slow as possible since higher speeds might limit your reaction time to stop your vehicle.



**WARNING:** Use caution when using the rear video camera and the luggage compartment door is ajar. If the luggage compartment door is ajar, the camera will be out of position and the video image may be incorrect. All guidelines disappear when the luggage compartment door is ajar.

# Parking Aids



**WARNING:** Use caution when turning camera features on or off. Make sure your vehicle is not moving.

The rear view camera system provides a video image of the area behind your vehicle.

During operation, lines appear in the display which represent your vehicle's path and proximity to objects behind your vehicle.



E142435

The camera is located 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).

The system uses two types of guides to help you see what is behind your vehicle:

- Fixed guidelines: Show the actual path your vehicle is moving in while 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:** The image may remain on momentarily when you shift the transmission out of reverse (R). If your vehicle speed reaches 6 mph (10 km/h) or 10 seconds elapse and the image remains on, have your system inspected by an authorized dealer.

**Note:** When towing, the camera only sees what you are towing behind your vehicle. This might not provide adequate coverage as it usually provides in normal operation and you might not see some objects. In some vehicles, the guidelines may disappear once you engage the trailer tow connector.

The 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.
- The camera is misaligned due to damage to the rear of your vehicle.

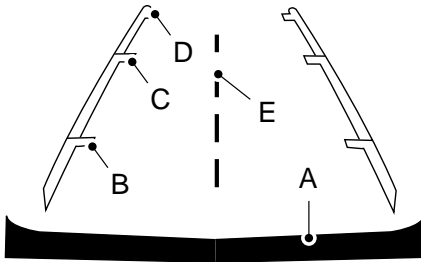
## Camera Guidelines

**Note:** Fixed guidelines are only available when the transmission is in reverse (R).

**Note:** The centerline is only available if fixed guidelines are on.

# Parking Aids

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- A Rear bumper
- B Fixed guideline: Red Zone
- C Fixed guideline: Yellow zone
- D Fixed guideline: Green zone
- E Centerline

Always use caution while 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.

# Cruise Control

## PRINCIPLE OF OPERATION

Cruise control lets you maintain a set speed without keeping your foot on the accelerator pedal. You can use cruise control when your vehicle speed is greater than 20 mph (30 km/h).

## USING CRUISE CONTROL



**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.



**WARNING:** When you are going downhill, your vehicle speed could increase above the set speed. The system does not apply the brakes.

To help the system to maintain the set speed when going downhill, downshift to a lower gear.

Your vehicle speed could decrease below the set speed when driving uphill.

**Note:** *The system cancels if your vehicle speed drops below 10 mph (16 km/h) under the set speed when driving uphill.*



E265860

The cruise controls are on the steering wheel. See **Using Cruise Control** (page 130).

## Switching Cruise Control On

**ON**

Press the toggle button upward.



The indicator appears in the information display.

## Setting the Cruise Speed

Drive to the desired speed.

**SET**

Press the toggle button upward or downward to set the current speed.

Take your foot off the accelerator pedal.

**Note:** *The indicator changes color.*

## Changing the Set Speed

**SET**

Press the toggle button upward or downward to increase or decrease the set speed in small increments.

Press and hold up or down to accelerate or decelerate, respectively. Release the button when you reach the desired speed.

Press the accelerator or brake pedal until you reach the desired speed. Press the toggle button either direction.

**Note:** *If you accelerate by pressing only 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.*

## Canceling the Set Speed

**CNCL**

Press and release the button, or tap the brake pedal to cancel the set speed.

# Cruise Control

---

**Note:** *The system remembers the set speed.*

## Resuming the Set Speed

**RES**

Press and release to resume the set speed.

## Switching Cruise Control Off

**OFF**

Press and hold the toggle button downward when the system is in standby mode, or switch the ignition off.

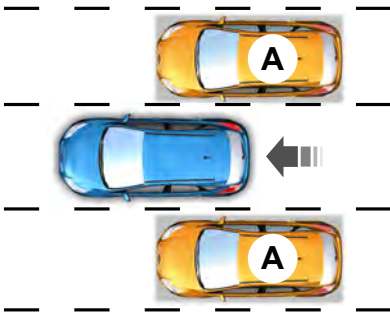
**Note:** *You erase the set speed when you switch the system off.*

# Driving Aids

## BLIND SPOT INFORMATION SYSTEM (If Equipped)



**WARNING:** Never 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.



E124788

The Blind Spot Information System is designed to aid you in detecting vehicles that may have entered the blind spot zone (A). The detection area is on both sides of your vehicle, extending rearward from the exterior mirrors to approximately 10 ft (3 m) beyond the bumper. The system is designed to alert you if certain vehicles enter the blind spot zone while driving.

**Note:** The Blind Spot Information System does not prevent contact with other vehicles or objects; nor detect parked vehicles, people, animals or infrastructure (fences, guardrails, trees). It's only designed to alert you to vehicles in the blind spot zones.

**Note:** When a vehicle passes quickly through the blind spot zone, typically fewer than two seconds, the system does not trigger.

### Using the System

The Blind Spot Information System turns on when you start the engine and you drive your vehicle forward above 3 mph (5 km/h).

For automatic transmissions, the Blind Spot Information System remains on while the transmission is in drive (D). If shifted into reverse (R) or park (P) the Blind Spot Information System turns off. Once shifted back into drive (D), the Blind Spot Information System turns back on when you drive your vehicle above 3 mph (5 km/h).

For manual transmissions, the Blind Spot Information System is on for all gears except the reverse (R).

**Note:** The Blind Spot Information System does not function in reverse (R) or park (P).

### System Lights and Messages

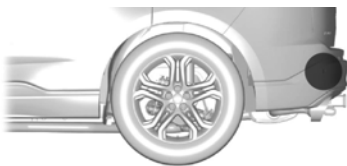


E142442

The Blind Spot Information System illuminates an amber alert indicator in the outside mirror on the side of your vehicle the approaching vehicle is coming from.

The alert indicator dims when the system detects nighttime darkness.

## System Sensor Blockage



E205199

The system uses radar sensors that are located behind the bumper fascia on each side of your vehicle. Any dirt, mud and snow in front of the sensors and/or driving in heavy rain can cause system degradation. Also, other types of obstructions in front of the sensor can cause system degradation. This is referred to as a 'blocked' condition.

**Note:** Do not apply bumper stickers and/or repair compound to these areas, this can cause degraded system performance.

If the system detects a degraded performance condition, a message warning of a blocked sensor will appear in the information display. Also the system alert indicators will remain ON and the system will no longer provide any vehicle warnings. You can clear the information display warning but the alert indicators will remain illuminated.

A "blocked" condition can be cleared in two ways:

- After the blockage in front of the sensors is removed or the rainfall/snowfall rate decreases or stops, drive for a few minutes in traffic to allow the sensors to detect passing vehicles.
- By cycling the ignition from ON to OFF and then back ON.

**Note:** When towing a trailer, the sensors may detect the trailer thus causing a false alert. It may be desirable to turn the Blind Spot Information System off if the false alerts become annoying.

## System Errors

If the system senses a problem with the left or right sensor, the telltale will illuminate and a message will appear in the information display. See **Information Messages** (page 77).

## System Limitations

The system does have its limitations; situations such as severe weather conditions or debris build-up on the sensor may limit vehicle detection.

The following are other situations that may limit the system:

- Certain maneuvering of vehicles entering and exiting the blind zone.
- Vehicles passing through the blind zone at very fast rates.
- When several vehicles forming a convoy pass through the blind zone.

## Switching the System Off and On

You can temporarily switch the Blind Spot Information System off in the information display. See **General Information** (page 74). When the Blind Spot Information System switches off, you will not receive alerts and the information display shows a system off message. The telltale in the cluster also illuminates. When you switch the Blind Spot Information System on or off, the alert indicators flash twice.

**Note:** The system switches back on every time you start your vehicle.



# Driving Aids

You can also have the Blind Spot Information System switched off permanently at an authorized dealer. Once switched off permanently, the system can only be switched back on at an authorized dealer.

## CROSS TRAFFIC ALERT (if

Equipped)



**WARNING:** Never use the Cross Traffic Alert system as a replacement for using the interior and exterior mirrors and looking over your shoulder before backing out of a parking space. Cross Traffic Alert is not a replacement for careful driving.

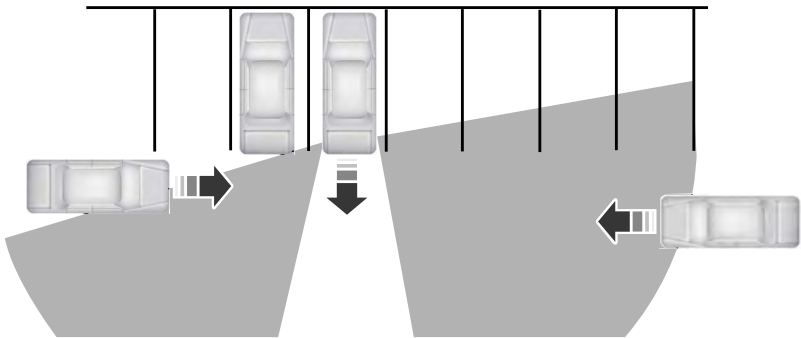
Cross Traffic Alert is designed to warn you of vehicles approaching from the sides when the transmission is in reverse (R).

### Using the System

Cross Traffic Alert turns on when you start the engine and you shift into reverse (R). Once shifted out of reverse (R), Cross Traffic Alert turns off.

**Note:** Cross Traffic Alert only functions while your transmission is in reverse (R).

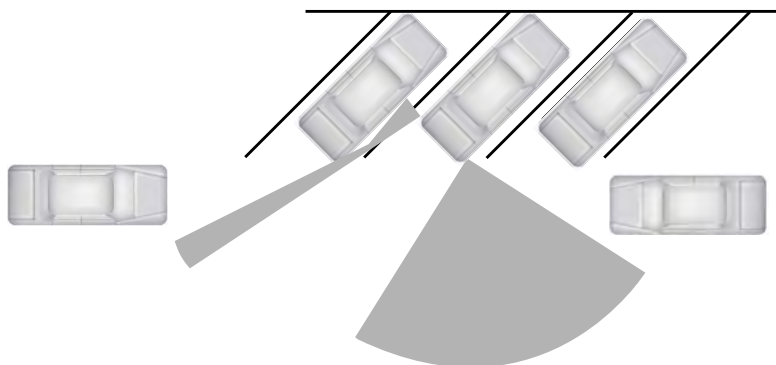
Cross Traffic Alert is designed to alert the driver of certain collision risks. Coverage decreases when the sensors are partially, mostly or fully obstructed. Reversing slowly helps increase the coverage area and effectiveness.



E142440

In this first example, the left sensor is only partially obstructed; zone coverage to the right is nearly maximized.

## Driving Aids



E142441

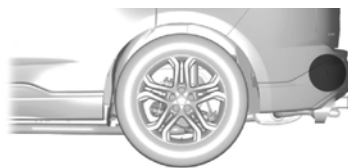
Zone coverage also decreases when parking at shallow angles. Here, the left sensor is mostly obstructed; zone coverage on that side is severely limited.

### System Lights, Messages and Audible Alerts



E142442

The Cross Traffic Alert illuminates an amber alert indicator in the outside mirror on the side of your vehicle the approaching vehicle is coming from. Cross Traffic Alert also sounds an audible alert and a message appears in the information display indicating a vehicle is coming from the right or left. Cross Traffic Alert works with the reverse sensing system that sounds its own series of tones. See **Rear Parking Aid** (page 126).



E205199

The system uses radar sensors that are located behind the bumper fascia on each side of your vehicle. Do not allow mud, snow or bumper stickers to obstruct these areas, this can cause degraded system performance. See **Blind Spot**

# Driving Aids

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**Information System** (page 132). If the Blind Spot Information System is blocked, Cross Traffic Alert is also blocked. A corresponding message appears in the information display as soon as you shift the transmission into reverse (R).

## System Limitations

Cross Traffic Alert has its limitations; situations such as severe weather conditions or debris build-up on the sensor area may limit vehicle detection.

The system detects approaching vehicles from up to 45 ft (14 m) away, though coverage decreases when the sensors are blocked. Reversing slowly helps increase the coverage area and effectiveness.

The following are other situations that may limit the Cross Traffic Alert performance:

- Stationary or slow moving vehicles.
- Pedestrians or objects in the roadway.
- Oncoming vehicles in the same lane.
- Severe weather conditions.
- Debris build-up near or around the sensor(s).
- Small distance to the vehicle ahead.
- Adjacent parking vehicles or objects obstructing the sensors.
- Approaching vehicles passing at speeds greater than 15 mph (24 km/h).
- Driving in reverse faster than 3 mph (5 km/h).
- Backing out of an angled parking spot.

If the rear end of the vehicle is hit or damaged, the radar sensing zone may be altered causing missed or false collision warnings. See your authorized dealer to have your collision warning radar checked for proper coverage and operation.

## False Alerts

**Note:** When towing a trailer, the sensors may detect the trailer thus causing a false alert. It may be desirable to turn the Blind Spot Information System off if the false alerts become annoying.

There may be certain instances when there is a false alert by the Cross Traffic Alert system that illuminates the alert indicator with no vehicle in the coverage zone. Some amount of false alerts are normal; they are temporary and self-correct.

## System Errors

If Cross Traffic Alert senses a problem with the left or right sensor a message will appear in the information display. See **Information Messages** (page 77).

## Switching the System Off and On

You can temporarily switch Cross Traffic Alert off in the information display. See **Information Messages** (page 77). When you switch Cross Traffic Alert off, you will not receive alerts and the information display will display a system off message.

**Note:** The Cross Traffic Alert switches on whenever the ignition is switched on and ready to provide appropriate alerts when the transmission is in reverse (R). Cross Traffic Alert will not remember the last selected on or off setting.

You can also have Cross Traffic Alert switched off permanently at an authorized dealer. Once switched off permanently, the system can only be switched back on at an authorized dealer.

## 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 by an authorized dealer.



**WARNING:** If the system detects an error, you may not feel a difference in the steering, however a serious condition may exist. Obtain immediate service from an authorized dealer, 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

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.

# Load Carrying

## REAR LOADSPACE HATCHES

### Cargo Vault (If Equipped)



E203068

Use the key to lock and unlock the door. Turn the handle to open the door.

### Electronic Utility Tray (If Equipped)

**Note:** Make sure the key is not in the cargo vault before moving the tray rearward.

**Note:** You must latch the tray in the forward position before operating the vehicle. This helps prevent damage to your vehicle or equipment.

**Note:** The maximum recommended load, evenly distributed and secured on the electronic utility tray, is 100 lb (45 kg).



E210216

You can use the tray to mount electronic equipment. It will latch in either the full-forward or full-rearward position. Push down on the levers on both sides of the tray to release the latches and move the tray.

## REAR UNDER FLOOR STORAGE

### Load Safe Label

Refer to the label on the luggage compartment lid or liftgate for additional information about the spare wheel and tire.

### Load Floor

Do not permanently remove the foam structure under the load floor that surrounds the spare tire. It is necessary to properly support the load floor.

The maximum load floor cargo weight, evenly distributed and with a full size spare tire installed, is 420 lb (190 kg).

## 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

# Load Carrying

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 NOMBRE DE PLACES	TOTAL	5	FRONT: 2 REAR: 3
The combined weight of occupants and cargo should never exceed 385 kg or 850 lbs.			
TIRE PNEU	SIZE DIMENSIONS	COLD TIRE PRESSURE PRESSION DES PNEUS A FROID	SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
FRONT AVANT	235/45R18 94V	235 KPA, 34 PSI	
REAR ARRIERE	235/45R18 94V	235 KPA, 34 PSI	
SPARE DE SECOURS	NONE	NONE	

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 PRESSION DES PNEUS A FROID	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS
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	

E198719

## 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 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.

# Load Carrying

## 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.

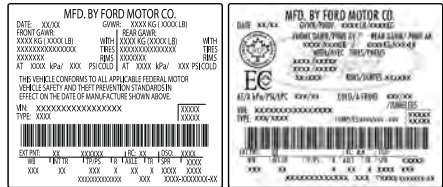
The total load on each axle must never exceed its Gross Axle Weight Rating.

## 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:



01/08/20



**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

# Load Carrying

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.

## 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 x 150) = 650 lb.)



## Load Carrying

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:  $1400 - (2 \times 220) - (12 \times 100) = 1400 - 440 - 1200 = -240$  pounds. No, you do not have enough cargo capacity to carry that much weight. In metric units, the calculation would be:  $635 \text{ kilograms} - (2 \times 99 \text{ kilograms}) - (12 \times 45 \text{ kilograms}) = 635 - 198 - 540 = -103$  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:  $1400 - (2 \times 220) - (9 \times 100) = 1400 - 440 - 900 = 60$  pounds. Now you have the load capacity to transport the cement and your friend home. In metric units, the calculation would be:  $635 \text{ kilograms} - (2 \times 99 \text{ kilograms}) - (9 \times 45 \text{ kilograms}) = 635 - 198 - 405 = 32$  kilograms.

## Load Carrying

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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 145).

Your vehicle may have electrical items, such as fuses or relays, related to towing. See **Fuses** (page 164).

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 138).

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:** Take into consideration trailer frontal area. Do not exceed 12 ft<sup>2</sup> (1.11 m<sup>2</sup>).

**Note:** For high altitude operation, reduce the gross combined weight by 2% per 1,000 ft (300 m) starting at the 1,000 ft (300 m) elevation point.

**Note:** Certain states require electric trailer brakes for trailers over a specified weight. 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.

Engine	Maximum trailer weight
3.5L TiVCT front-wheel drive	1,000 lb (454 kg)
3.5L GTDI all-wheel drive	1,000 lb (454 kg)
3.7L TiVCT all-wheel drive	1,000 lb (454 kg)

# 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 your scheduled maintenance information.
- 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 138).

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.

### Safety Chains

**Note:** *Never 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.**

**Separate functioning brake systems are required for safe control of towed vehicles and trailers weighing more than 1500 pounds (680 kilograms) 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.

Trailer lamps are required on most towed vehicles. Make sure all running lights, brake lights, turn signals and hazard lights 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 position **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 are not included with your 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 drivability, 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

## TOWING THE VEHICLE ON FOUR WHEELS

### Emergency Towing

You can flat-tow (all wheels on the ground, regardless of the powertrain/transmission configuration) your disabled vehicle (without access to wheel dollies, car-hauling trailer, or flatbed transport vehicle) under the following conditions:

- Your vehicle is facing forward so you tow it in a forward direction.
- You place the transmission in neutral (N). If you cannot place the transmission in neutral (N), you may need to override it. See **Transmission** (page 110).
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

### Recreational Towing

**Note:** Put your climate control system in recirculated air mode to prevent exhaust fumes from entering your vehicle. See **Climate Control** (page 83).

Follow these guidelines if you have a need for recreational towing, such as towing your vehicle behind a motorhome or truck. We designed these guidelines to prevent damage to your vehicle after it is hooked-up to the recreational vehicle or tow dolly.

You can tow your front-wheel drive vehicle with all four wheels on the ground or with the front wheels off the ground by using a tow dolly. If you are using a tow dolly, follow the instructions specified by the equipment provider. If you are towing with all four wheels on the ground, see the following instructions.

You can tow your all-wheel drive vehicle with all four wheels on the ground or with all four wheels off the ground using a vehicle transport trailer. Do not tow your all-wheel drive vehicle with the front wheels off the ground (by using a tow dolly) and the rear wheels on the ground. This causes damage to your all-wheel drive system. If you are using a vehicle transport trailer, follow the instructions specified by the equipment provider. If you are towing with all four wheels on the ground, see the following instructions.

If you tow your vehicle with all four wheels on the ground:

- Tow only in the forward direction.
- Release the parking brake.
- Shift into neutral (N).
- Do not exceed 65 mph (105 km/h).
- Start the engine and allow it to run for five minutes at the beginning of each day and every six hours thereafter. With the engine running and your foot on the brake, shift into drive (D) and then into reverse (R) before shifting back into neutral (N).

# Driving Hints

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## BREAKING-IN

You need to break in new tires for approximately 300 mi (480 km). During this time, your vehicle may exhibit some unusual driving characteristics.

Avoid driving too fast during the first 1,000 mi (1,600 km). Vary your speed frequently and change up through the gears early. Do not labor the engine.

Do not tow during the first 1,000 mi (1,600 km).

## ECONOMICAL DRIVING

Your 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 without stopping.
- 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 turning 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.
- Carry unnecessary weight (approximately 1 mpg [0.4 km/L] is lost for every 400 lb [180 kilogram] 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.



## Driving Hints

- 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.

### 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.



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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.

## Driving Hints

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**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.



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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 listed on the Roadside Assistance Card included in your Owner's Manual portfolio.

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 98 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 information portfolio in the glove compartment.

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

4. You can attempt to start the vehicle by pressing the brake pedal and **START/STOP**, or press **START/STOP** without pressing the brake pedal.
5. If the vehicle does not start, repeat steps 1 through 4.

## JUMPSTARTING 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.

## Connecting the Jumper Cables



**WARNING:** Do not attach the cables to fuel lines, engine rocker covers, the intake manifold or electrical components as grounding points. Stay clear of moving parts. To avoid reverse polarity connections, make sure that you correctly identify the positive (+) and negative (-) terminals on both the disabled and booster vehicles before connecting the cables.



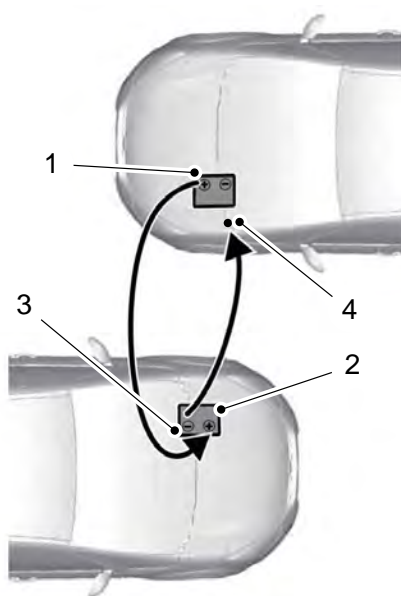
**WARNING:** Do not attach the end of the positive cable to the studs or L-shaped eyelet located above the positive (+) terminal of your vehicle's battery. High current may flow through and cause damage to the fuses.



**WARNING:** Do not connect the end of the second cable to the negative (-) terminal of the battery to be jumped. A spark may cause an explosion of the gases that surround the battery.

**Note:** In the illustration, the bottom vehicle represents the booster vehicle.

# Roadside Emergencies



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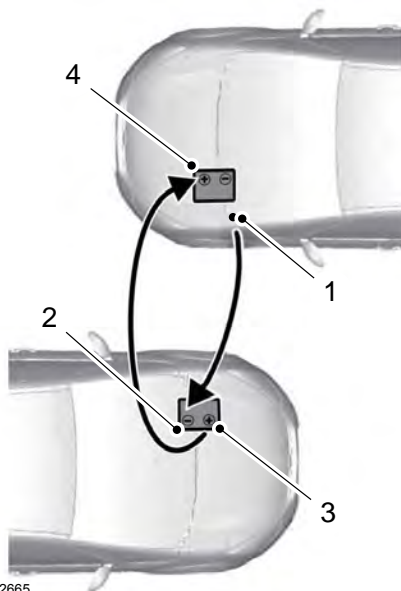
1. Connect the positive (+) jumper cable to the positive (+) terminal of the discharged battery.
2. Connect the other end of the positive (+) cable to the positive (+) terminal of the booster vehicle battery.
3. Connect the negative (-) cable to the negative (-) terminal of the booster vehicle battery.
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

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.



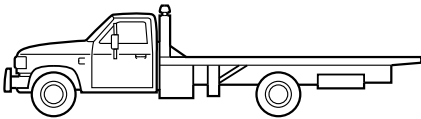
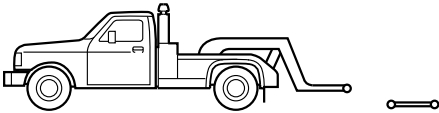
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1. Remove the negative (-) jumper cable from the disabled vehicle.

# Roadside Emergencies

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.

## TRANSPORTING THE VEHICLE



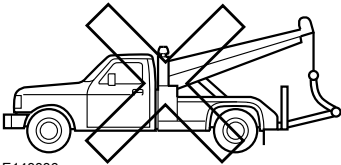
We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Do not tow with a slingbelt. Ford Motor Company has not approved a slingbelt towing procedure. Vehicle damage may occur if towed incorrectly, or by any other means.

Ford Motor Company produces 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.

It is acceptable to have your front-wheel drive vehicle towed from the front if using proper wheel lift equipment to raise the front wheels off the ground. When towing in this manner, the rear wheels can remain on the ground.

Front-wheel drive vehicles must have the front wheels placed on a tow dolly when towing your vehicle from the rear using wheel lift equipment. This prevents damage to the transmission.

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.



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If you need to have your vehicle towed, contact a professional towing service or, if you are a member of a roadside assistance program, your roadside assistance service provider.

# 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)

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)

Website
<a href="http://www.ford.ca">www.ford.ca</a>

#### Twitter

@FordServiceCA (English Canada)  
@FordServiceQC (Quebec)

#### 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.



## Customer Assistance

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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.

**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 Relation- ship Center	Phone	Fax	E-mail
Asia Pacific	N/A	N/A	apemcrc@ford.com
Caribbean and Central America	+1 313 594 4857	-	expcac@ford.com
Middle East	Ford 80004443673	971 4 3327 266	menacac@ford.com
	Lincoln 80004441066		
	UAE 80004441066		
	Saudi Arabia 8008443673		
	Mobily and Zain cell phone users in Saudi 800850078		
North Africa	N/A	N/A	nafcrc@ford.com
Puerto Rico and U.S. Virgin Islands	+1-800-841-3673	N/A	prcac@ford.com
Sub-Saharan Africa	+1-313-594-4857	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

### ORDERING ADDITIONAL OWNER'S LITERATURE

To order the publications in this portfolio, contact Helm, Incorporated at:

HELM, INCORPORATED  
47911 Halyard Drive  
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, Incorporated 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, Incorporated using the contact information listed previously in this section.

### REPORTING SAFETY DEFECTS (U.S. ONLY)



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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 <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 <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/securiteautomobile/signaler-defauts-vehicules-automobiles.html">http://www.tc.gc.ca/fra/securiteautomobile/signaler-defauts-vehicules-automobiles.html</a> (French)
Phone	1-800-333-0510

Transport Canada Contact Information	
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/securiteautomobile/signaler-defauts-vehicules-automobiles.html">http://www.tc.gc.ca/fra/securiteautomobile/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

Ford of Canada Contact Information	
Website	<a href="http://www.ford.ca">www.ford.ca</a>
Phone	1-800-565-3673

# Fuses

## FUSE SPECIFICATION CHART

### Power Distribution Box



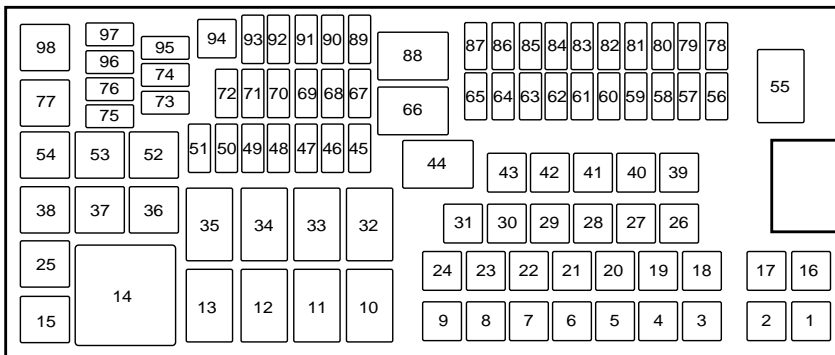
**WARNING:** Always disconnect the battery before servicing high current fuses.



**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 power distribution box is in the engine compartment. It has high-current fuses that protect the vehicle's main electrical systems from overloads.

If you disconnect and reconnect the battery, you will need to reset some features. See **Changing the 12V Battery** (page 189).



E173618

Fuse or Relay Number	Fuse Amp Rating	Protected Components
1	50A <sup>1</sup>	Rear power point tap feed 1.
2	50A <sup>1</sup>	Rear power point tap feed 2.
3	-	Not used.
4	30A <sup>1</sup>	Wiper motor relay.

## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
5	50A <sup>1</sup>	Anti-lock brake system pump.
6	40A <sup>1</sup>	Center console 6-way B+ feed 2.
7	-	Not used.
8	-	Not used.
9	-	Not used.
10	-	Not used.
11	Relay	Heated rear window relay. Heated mirror relay.
12	Relay	Run/start relay.
13	Relay	Starter motor relay.
14	Relay	Left-hand cooling fan number 2 relay.
15	Relay	Fuel pump relay.
16	40A <sup>1</sup>	Center console 6 way B+ feed 1.
17	-	Not used.
18	40A <sup>1</sup>	Front blower motor relay.
19	30A <sup>1</sup>	Starter relay.
20	20A <sup>1</sup>	Center console power point 2.
21	-	Not used.
22	-	Not used.
23	30A <sup>1</sup>	Driver power seat.
24	40A <sup>1</sup>	Police run/start relay.
25	-	Not used.
26	40A <sup>1</sup>	Heated rear window relay.
27	20A <sup>1</sup>	Center console power point 1.



## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
28	-	Not used.
29	40A <sup>1</sup>	Engine cooling fan 1 high speed power. Engine cooling fan 1 and 2 low speed primary fuse.
30	40A <sup>1</sup>	Engine cooling fan 2 high speed fuse.
31	25A <sup>1</sup>	Engine cooling fan 1 and 2 low speed secondary fuse.
32	-	Not used.
33	Relay	Engine cooling fan 1 and 2 low speed relay 2.
34	Relay	Blower motor relay.
35	Relay	Engine cooling fan 1 high speed relay. Engine cooling fan 1 and 2 low speed relay 1.
36	-	Not used.
37	-	Not used.
38	-	Not used.
39	-	Not used.
40	40A <sup>1</sup>	Center console 6-way B+ feed 1.
41	-	Not used.
42	30A <sup>1</sup>	Passenger power seat.
43	20A <sup>1</sup>	Anti-lock brake system valves.
44	-	Not used.
45	-	Not used.
46	-	Not used.
47	-	Not used.
48	-	Not used.
49	-	Not used.

## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
50	15A <sup>2</sup>	Heated mirrors.
51	-	Not used.
52	-	Not used.
53	-	Not used.
54	-	Not used.
55	Relay	Wiper relay.
56	-	Not used.
57	-	Not used.
58	10A <sup>2</sup>	Alternator A-line.
59	10A <sup>2</sup>	Brake on/off switch.
60	-	Not used.
61	-	Not used.
62	10A <sup>2</sup>	A/C clutch relay.
63	-	Not used.
64	-	Not used.
65	30A <sup>2</sup>	Fuel pump relay.
66	Relay	Powertrain control module relay.
67	20A <sup>2</sup>	Oxygen sensor heater. Mass airflow sensor. Variable camshaft timing solenoid valve. Canister vent solenoid. Canister purge solenoid.
68	20A <sup>2</sup>	Ignition coils.
69	20A <sup>2</sup>	Vehicle power 1 (powertrain control module).
70	15A <sup>2</sup>	A/C clutch. Fan control relay coils 1-3).

## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
		Variable air conditioning compressor. Auxiliary transmission warmup. Turbo charge waste-gate control. Electronic compressor bypass valve. All-wheel drive module. Positive crankcase ventilation heater.
71	-	Not used.
72	-	Not used.
73	20A <sup>2</sup>	Center console run/start feed 1.
74	20A <sup>2</sup>	Center console run/start feed 2.
75	Diode.	Diode.
76	-	Not used.
77	-	Not used.
78	-	Not used.
79	-	Not used.
80	25A <sup>2</sup>	Police rear flasher. Package tray lighting access circuit.
81	20A <sup>2</sup>	Spot lights.
82	-	Not used.
83	-	Not used.
84	-	Not used.
85	-	Not used.
86	7.5A <sup>2</sup>	Powertrain control module. Keep alive power and relay. Canister vent solenoid.
87	5A <sup>2</sup>	Run/start relay.
88	Relay	Run/start relay.
89	5A <sup>2</sup>	Front blower relay coil. Electrical power assist steering module.

# Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
90	10A <sup>2</sup>	Powertrain control module run/start.
91	-	Not used.
92	10A <sup>2</sup>	Anti-lock brake system module.
93	5A <sup>2</sup>	Rear window defrost relay. Trunk release relay.
94	30A <sup>1</sup>	Passenger compartment fuse panel run/start.
95	2A <sup>2</sup>	Center console start feed.
96	-	Not used.
97	-	Not used.
98	Relay	A/C clutch relay.

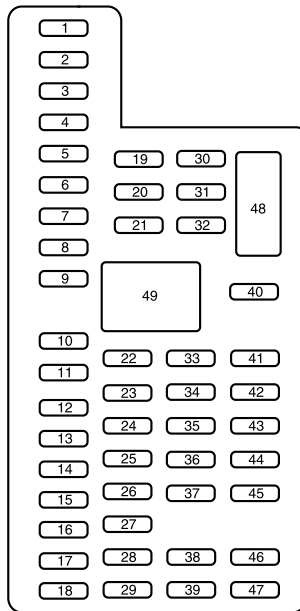
<sup>1</sup> J-case fuses.

<sup>2</sup> Mini fuses.

## Passenger Compartment Fuse Panel

The fuse panel is under the instrument panel to the left of the steering wheel. You may need to remove a trim panel to access it.

# Fuses



E163102

Fuse or Relay Number	Fuse Amp Rating	Protected Components
1	30A	Left front and right rear smart window motors.
2	15A	Driver seat switch. 14-way B+ feed 3.
3	30A	Not used (spare).
4	10A	Demand lamps battery saver relay. Glove box lamp. Task lamp.
5	20A	14-way B+ feed 1.
6	5A	Not used (spare).
7	7.5A	Not used (spare).
8	10A	Not used (spare).

## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
9	10A	SYNC module. Multi-function displays. Electronic finish panel. Radio frequency transceiver module.
10	10A	Run accessory relay.
11	10A	Not used (spare).
12	15A	Backlighting LED. Interior lighting. Backlighting feed.
13	15A	Right-hand direction indicators. Right rear police fuse/relay box.
14	15A	Left-hand direction indicators. Left rear police fuse/relay box.
15	15A	Stop lamp. Backup lamp.
16	10A	Right low beam.
17	10A	Left low beam.
18	10A	Brake-shift interlock. Powertrain control module wake-up.
19	20A	Police B+ 8 access circuit center console. 14-way B+ feed 2.
20	20A	All lock motor relay and coil. Driver lock motor relay and coil.
21	10A	Extended power module.
22	20A	Horn relay.
23	15A	Steering wheel control module logic Instrument cluster.
24	15A	Steering wheel control module.
25	15A	Not used (spare).
26	5A	Ignition switch.
27	20A	Not used (spare).

## Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
28	15A	Not used (spare).
29	20A	Radio. Global positioning system module.
30	15A	Front park lamps.
31	5A	Brake signal for police equipment.
32	15A	Master window and mirror switch. Lock switch illumination. Police console inline delayed accessory feed. Delayed accessory feed.
33	10A	Not used (spare).
34	10A	Reverse park aid module. Blind spot monitor module. Rear video camera.
35	5A	Motorized humidity sensor. Overdrive cancel switch (Low gear switch feed). Column shift – low gear.
36	10A	Not used (spare).
37	10A	Not used (spare).
38	10A	Auto–dimming mirror. Rear camera display mirror.
39	15A	High beam headlamp shutters.
40	10A	Rear park lamps.
41	7.5A	Extended power module.
42	5A	Police 4-button steering wheel control module.
43	10A	Not used (spare).
44	10A	Not used (spare).
45	5A	Not used (spare).
46	10A	Climate control module.

# Fuses

Fuse or Relay Number	Fuse Amp Rating	Protected Components
47	15A	Not used (spare).
48	30A Circuit breaker	Window switches.
49	Relay	Delayed accessory.

## CHANGING A FUSE

### Fuses



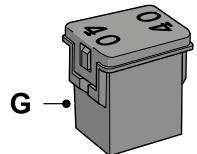
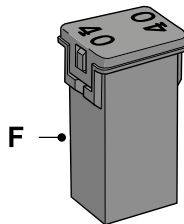
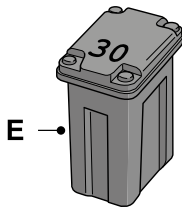
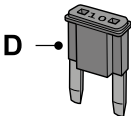
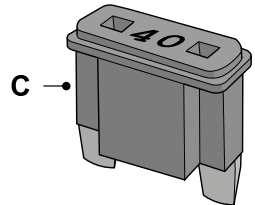
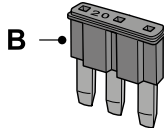
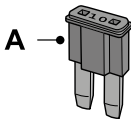
**WARNING:** Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.



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.

### Fuse Types



E207206



## Fuses

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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.
- 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

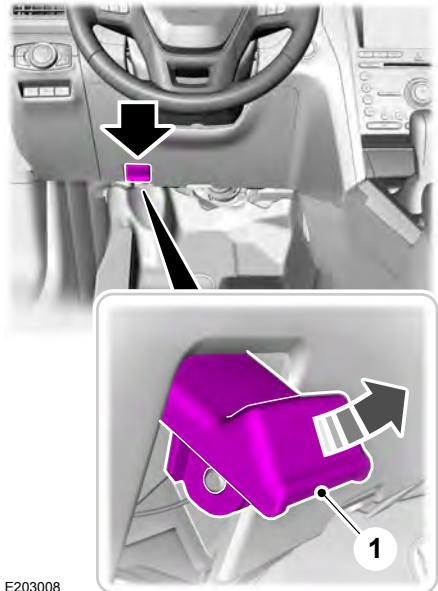


**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

1. Set the parking brake and shift the transmission to park (P).
2. Block the wheels.

## OPENING AND CLOSING THE HOOD

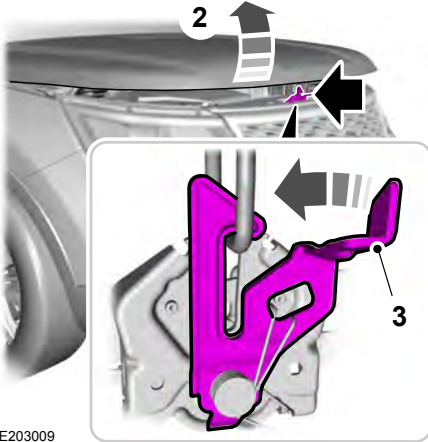
### Opening the Hood



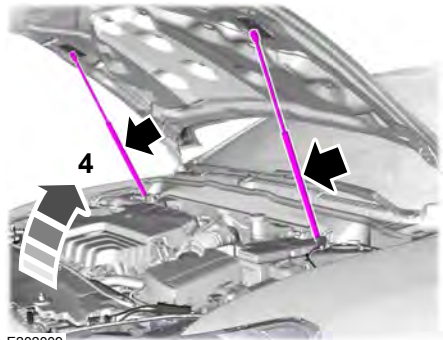
E203008

# Maintenance

1. Inside the vehicle, pull the hood release handle located under the left-hand side of the instrument panel.
2. Slightly lift the hood.



3. Release the hood latch by pushing the secondary release lever to your left-hand side.



4. Open the hood. The hood struts automatically support the hood.

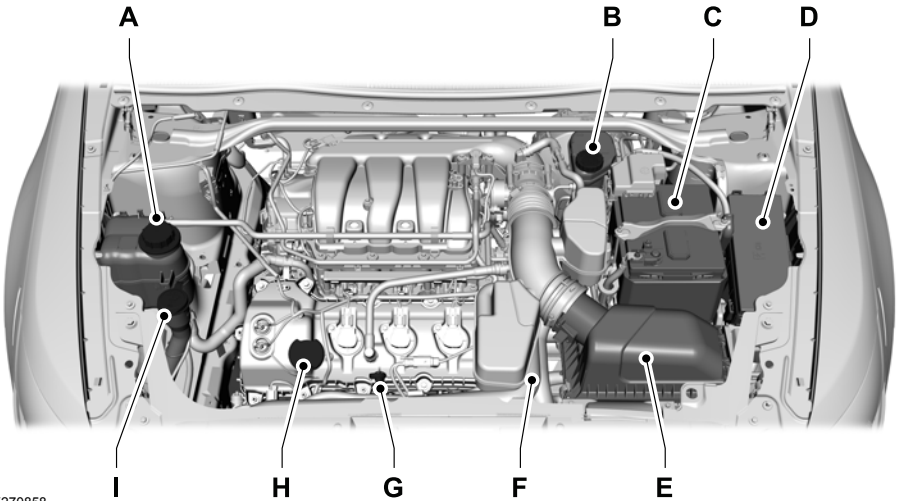
## Closing the Hood

1. Lower the hood and allow it to drop under its own weight for the last 8–12 in (20–30 cm).

**Note:** Make sure that the hood is correctly closed.

## UNDER HOOD OVERVIEW - 3.5L DURATEC/3.7L

# Maintenance



E270858

- A. Engine coolant reservoir. See **Engine Coolant Check** (page 181).
- B. Brake fluid reservoir. See **Brake Fluid Check** (page 188).
- C. Battery. See **Changing the 12V Battery** (page 189).
- D. Power distribution box. See **Fuses** (page 164).
- E. Air filter assembly. See **Changing the Engine Air Filter** (page 194).
- F. Automatic transmission dipstick. See **Automatic Transmission Fluid Check** (page 185).
- G. Engine oil dipstick. See **Engine Oil Dipstick** (page 179).
- H. Engine oil filler cap. See **Engine Oil Check** (page 179).
- I. Windshield washer fluid reservoir. See **Washer Fluid Check** (page 189).

## Engine Shield



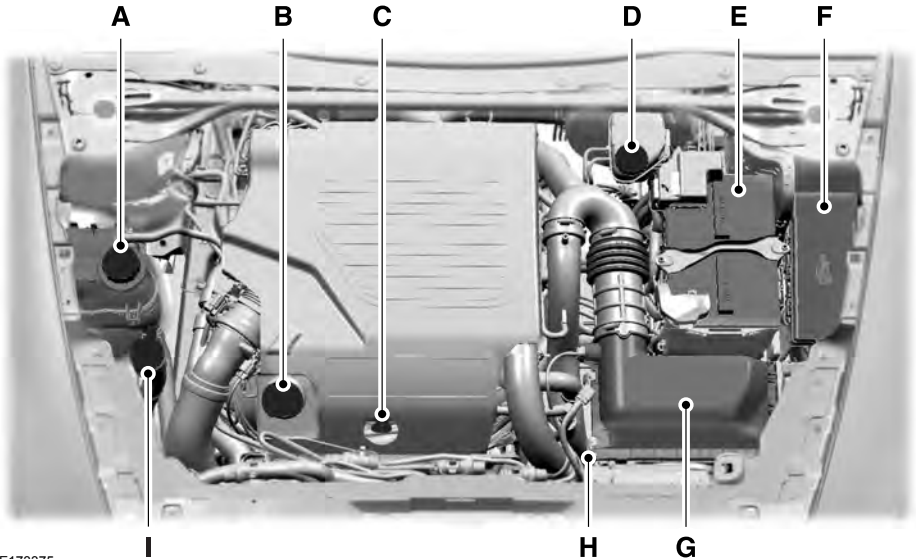
E173374

# Maintenance

Some vehicles may be equipped with an aero-shield under the engine. This shield needs to be removed for service, including

oil and filter changes. The shield has four quick-release fasteners to secure it in place.

## UNDER HOOD OVERVIEW - 3.5L ECOBOOST™

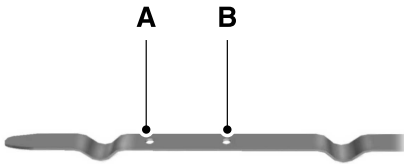


E173375

- A. Engine coolant reservoir. See **Engine Coolant Check** (page 181).
- B. Engine oil filler cap. See **Engine Oil Check** (page 179).
- C. Engine oil dipstick. See **Engine Oil Dipstick** (page 179).
- D. Brake fluid reservoir. See **Brake Fluid Check** (page 188).
- E. Battery. See **Changing the 12V Battery** (page 189).
- F. Engine compartment fuse box. See **Fuses** (page 164).
- G. Air filter assembly. See **Changing the Engine Air Filter** (page 194).
- H. Automatic transmission dipstick. See **Automatic Transmission Fluid Check** (page 185).
- I. Washer fluid reservoir. See **Washer Fluid Check** (page 189).

# Maintenance

## ENGINE OIL DIPSTICK - 3.5L DURATEC/3.5LECOBOOST™/3.7L



E146429

- A MIN
- B MAX

## 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 175).
6. Remove the dipstick and wipe it with a clean, lint-free cloth. See **Under Hood Overview** (page 176).

7. Replace the dipstick and remove it again to check the oil level. See **Under Hood Overview** (page 176).
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 235).
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.



E142732

# 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 176). Turn it counterclockwise and remove it.
3. Add engine oil that meets our specifications. See **Capacities and Specifications** (page 235). 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.
Convenience	Press the right arrow button, then from this menu scroll to the following message.
Oil Life Reset	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}%
	If the instrument cluster displays one of the following messages, repeat the process.
	Not Reset
	Reset Cancelled

# Maintenance

## 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 299).

**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 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 228). 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 228). 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 228).
3. Add enough prediluted coolant to reach the correct level.
4. Replace the coolant reservoir cap, turn it clockwise until you feel a strong resistance.

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.

**Note:** *During normal vehicle operation, the coolant may change color from orange to pink or light red. As long as the coolant is clear and uncontaminated, this color change does not indicate the coolant has degraded nor does it require the coolant to be drained, the system to be flushed, or the coolant to be replaced.*

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.

# Maintenance

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.*

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 228).

## 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.

# Maintenance

## 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.



**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.

# Maintenance

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:

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 - 3.5L DURATEC/ 3.5L ECOBOOST™/3.7L

### 6F50/6F55 Transmission (If Equipped)



**WARNING:** The dipstick and surrounding components are hot. Use gloves when moving components and checking the transmission fluid level. Failure to follow this warning could result in serious personal injury.

**Note:** Automatic transmission fluid expands when warmed. To obtain an accurate fluid check, drive your vehicle until you warm it up, approximately 20 mi (30 km). If you operate your vehicle for an extended period at high speeds, in city traffic during hot weather or pulling a trailer, switch your vehicle off until it reaches normal operating temperatures to allow the fluid to cool before checking. Depending on vehicle use, cooling times could take up to 30 minutes or longer.

Refer to your scheduled maintenance information for scheduled intervals for fluid checks and changes. Your transmission does not consume fluid. However, you should check the fluid level if the transmission is not working properly. For example, if the transmission slips or shifts slowly or if you notice some sign of a fluid leak.

1. Drive your vehicle 20 mi (30 km) or until it reaches normal operating temperature.
2. Park your vehicle on a level surface and engage the parking brake.
3. With the parking brake engaged and your foot on the brake pedal, start the engine and move the gearshift lever through all of the gear ranges. Allow a minimum of 10 seconds for each gear to engage.
4. Put the gearshift lever in park (P) and leave the engine running.

**Note:** For vehicles with the EcoBoost engine, move the air filter assembly aside to access the transmission dipstick. See *Moving the Air Filter Assembly* for more information.

5. Remove the dipstick and wipe it clean with a dry, lint free clean rag. If necessary, refer to the Under hood overview in this chapter for the location of the dipstick.

# Maintenance

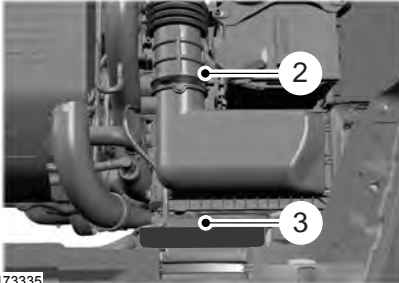
6. Install the dipstick making sure you fully seat it in the filler tube by turning it to the locked position.
7. Remove the dipstick and inspect the fluid level. The fluid should be in the designated areas for normal operating temperature.

## Moving the Air Filter Assembly (Accessing the Dipstick)

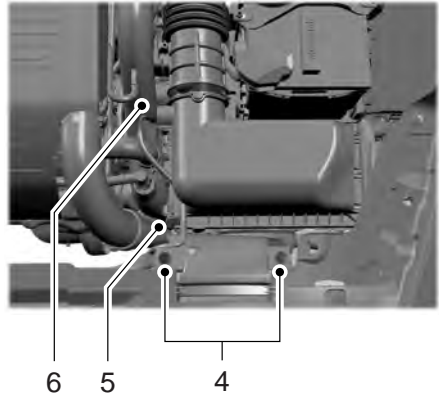


**WARNING:** Do not start the engine with the air filter removed. This can cause damage not covered by the vehicle Warranty and can result in serious injury.

1. Switch the engine off.

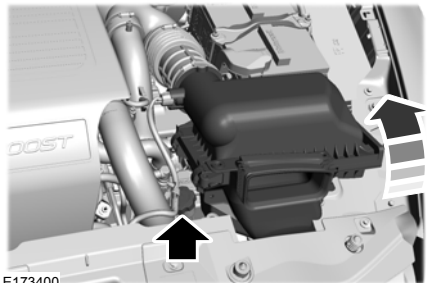


2. Clean the area around the clamp that connects the air filter assembly to the rubber hose and then loosen it.
3. Remove the bolt cover.



E173334

4. Remove two bolts that attach the air filter assembly to the front of the vehicle.
5. Remove the harness retaining clip by pulling up.
6. Do not disconnect the sensor.



E173400

# Maintenance

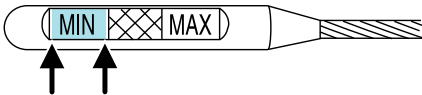
7. Pull the air filter assembly up to disconnect it from the seated grommets located under the air filter assembly.
8. Rotate the air filter assembly 90 degrees counterclockwise. Make sure the rubber hose is still connected to the air filter assembly.
9. Tighten the clamp.

You can now access the transmission fluid level indicator.

## Checking the fluid level

Check the transmission fluid at the normal operating temperatures between  $88^{\circ}\text{C}+5^{\circ}\text{C}$  ( $190^{\circ}\text{F}+10^{\circ}\text{F}$ ) on a level surface. Drive your vehicle until you warm it up to the normal operating temperature after approximately 20 mi (30 km).

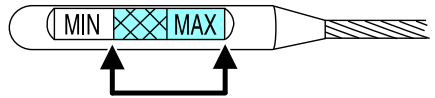
### Correct fluid level



E235672

Target the transmission fluid level within the marked area at the normal operating temperature between  $88^{\circ}\text{C}+5^{\circ}\text{C}$  ( $190^{\circ}\text{F}+10^{\circ}\text{F}$ ).

### High fluid level



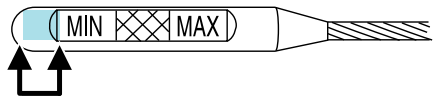
E240047

If the fluid level is above the MIN range of the dipstick, remove fluid to reach the MIN level.

**Note:** Fluid level above the MIN level may cause shift or engagement concerns or possible damage. An overheating condition can cause high fluid levels. If you operate your vehicle for an extended period at high speeds, in city traffic during hot weather or pulling a trailer, you should switch your vehicle off until your vehicle reaches normal operating temperatures. Depending on vehicle use, cooling times could take up to 30 minutes or longer.

## Adjusting Automatic Transmission Fluid Levels

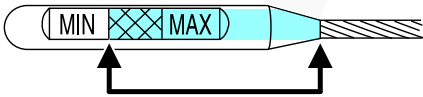
### Low fluid level



E240048

# Maintenance

## Overfilled fluid level



E240049

**Note:** An overfill condition of transmission fluid may cause shift or engagement concerns or possible damage.

Before adding any fluid, make sure the correct type is used. The type of fluid used is normally indicated on the dipstick and in the Technical Specifications section in this chapter.

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. Reinstall the air filter assembly. After you check the fluid level and adjust as necessary, do the following:

### Reinstalling The Air Filter Assembly

1. Switch the engine off.
2. Replace the air filter assembly back into the grommets by pushing down on the air filter assembly.
3. Tighten the clamp holding the air filter assembly to the rubber hose.
4. Install and tighten the two bolts that attach the air filter assembly to the front of the vehicle.
5. Install the bolt cover.
6. Reinstall the harness retaining clip into the front of the air filter assembly.

## 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:** A fluid level between the **MAX** and **MIN** lines is within the normal operating range and there is no need to add fluid. A fluid level not in the normal operating range could compromise the performance of the system. Have your vehicle checked immediately.

## Maintenance



E170684

To avoid fluid contamination, the reservoir cap must remain in place and fully tight, unless you are adding fluid.

Only use fluid that meets Ford specifications. See **Capacities and Specifications** (page 228).

### POWER STEERING FLUID CHECK

Your vehicle is equipped with an electric power steering (EPS) system. There is no fluid reservoir to check or fill.

### WASHER FLUID CHECK



**WARNING:** If you operate your vehicle in temperatures below 40°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.

Add fluid to fill the reservoir if the level is low. Only use a washer fluid that meets Ford specifications. See **Capacities and Specifications** (page 228).

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.

### 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.



# Maintenance



**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:** 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.

Your vehicle is fitted with a Motorcraft maintenance-free battery which normally does not require additional water.

When a battery replacement is required, you must use a recommended replacement battery that matches the electrical requirements of the vehicle.

**Note:** After cleaning or replacing the battery, make sure you reinstall the battery cover or shield.

**Note:** If you add electrical accessories or components to the vehicle, it may adversely affect the low voltage battery performance and durability. This may also affect the performance of other electrical systems in the vehicle.

For longer, trouble-free operation, keep the top of the battery clean and dry.

If you see any corrosion 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.

Because your vehicle's engine is electronically controlled by a computer, some control conditions are maintained by power from the battery. When the battery is disconnected or a new battery is installed, the engine must relearn its idle and fuel trim strategy for optimum driveability and performance. Flexible fuel vehicles (FFV) must also relearn the ethanol content of the fuel for optimum driveability and performance.

To restore the settings, do the following:

1. Apply the parking brake.
2. Shift into park (P) or neutral (N).
3. Switch off all accessories.
4. Press the brake pedal and start your vehicle.
5. Run the engine until it reaches normal operating temperature. While the engine is warming up, complete the following: Reset the clock. Reset the power windows bounce-back feature. See **Windows and Mirrors** (page 66). Reset the radio station presets. See **Audio System** (page 249).
6. Allow the engine to idle for at least one minute.
7. Drive the vehicle at least 10 mi (16 km) to completely relearn the idle trim and fuel trim strategy.

# Maintenance

**Note:** If you do not allow the engine to relearn the idle and fuel trim strategy, the idle quality of your vehicle may be adversely affected until the engine computer eventually relearns the idle trim and fuel trim strategy.

**Note:** For flexible fuel vehicles, if you are operating on E85, you may experience poor starts or an inability to start the engine and driveability problems until the fuel trim and ethanol content have been relearned.

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

If storing your vehicle for more than 30 days without recharging the battery, we recommend that you disconnect the negative battery cable to maintain battery charge for quick starting.

## 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.

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.

## CHECKING THE WIPER BLADES



E142463

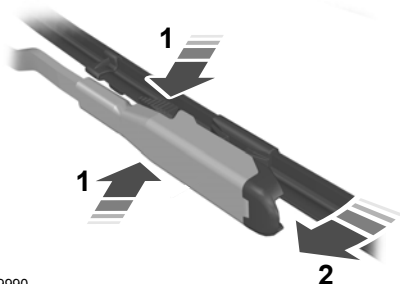
Run the tip of your fingers over the edge of the blade to check for roughness.

Clean the wiper blades with washer fluid or water applied with a soft sponge or cloth.

# Maintenance

## CHANGING THE WIPER BLADES

1. Pull the wiper blade and arm away from the glass and press the locking buttons together.



E129990

2. Rotate and remove the wiper blade.
3. Attach the new blade to the arm and snap it into place.

Replace wiper blades at least once per year for optimum performance.

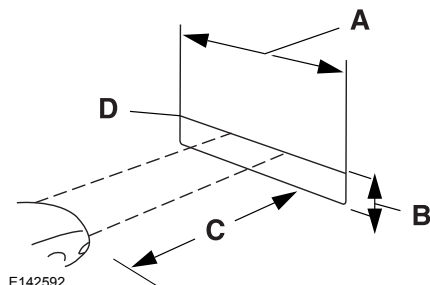
Poor wiper quality can be improved by cleaning the wiper blades and the windshield. See **Cleaning the Windows and Wiper Blades** (page 198).

## ADJUSTING THE HEADLAMPS

### Vertical Aim Adjustment

The headlamps on your vehicle are properly aimed at the assembly plant. If your vehicle has been in an accident, have the alignment of your headlamps checked by your authorized dealer.

### Headlamp Aiming Target



- A 8 feet (2.4 meters)
- B Center height of lamp to ground
- C 25 feet (7.6 meters)
- D Horizontal reference line

### Vertical Aim Adjustment

1. Park the vehicle directly in front of a wall or screen on a level surface, approximately 25 ft (7.6 m) away.
2. Measure the height from the center of your headlamp indicated by a 3.0 millimeter circle on the lens to the ground and mark an 8 ft (2.4 m) horizontal reference line on the vertical wall or screen at this height (a piece of masking tape works well).

**Note:** To see a clearer light pattern for adjusting, you may want to block the light from one headlamp while adjusting the other.

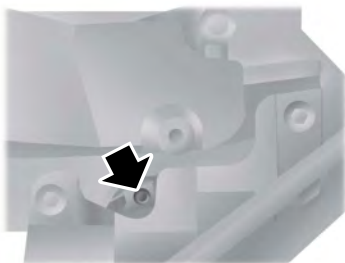
3. Turn on the low beam headlamps to illuminate the wall or screen and open the hood. Cover one of the headlamps so no light hits the wall.

# Maintenance



E142465

- There is a distinct cut-off (change from light to dark) in the left portion of the beam pattern. Position the top edge of this cut-off 2 in (5 cm) below the horizontal reference line.



E167359

- Locate the vertical adjuster on each headlamp. Use a Phillips #2 screwdriver to turn the adjuster either clockwise or counterclockwise to adjust the vertical aim of the headlamp. The horizontal edge of the brighter light should touch the horizontal reference line.
- Repeat Steps 3 through 7 to adjust the other headlamp.
- Close the hood and turn off the lamps.

## Horizontal Aim Adjustment

Horizontal aim is not required for this vehicle and is not adjustable.

## CHANGING A BULB



**WARNING:** Bulbs can become hot. Let the bulb cool down before removing it. Failure to do so could result in personal injury.



**WARNING:** Switch the lamps and the ignition off. Failure to follow this warning could result in serious personal injury.

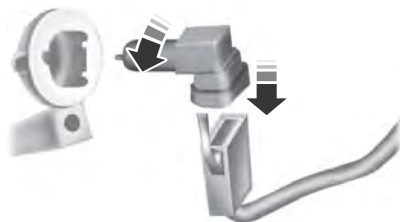
Use the correct specification bulb. See **Bulb Specification Chart** (page 247).

Install in the reverse order unless otherwise stated.

## High-Intensity Discharge Headlamps

These lamps operate at a high voltage. See an authorized dealer if they fail.

## Front Fog Lamp (If Equipped)



E163826

- Switch all of the lamps and the ignition off.
- Disconnect the electrical connector.
- Turn the bulb holder counterclockwise and remove it.

**Note:** Do not touch the bulb glass.

# Maintenance

**Note:** You cannot separate the bulb from the bulb holder.

## LED Lamps

LED lamps are not serviceable items. See an authorized dealer if they fail.

The following lamps are LED:

- Front parking lamps.
- Front side marker lamps.
- Front direction indicators.
- Side direction indicators.
- Brake and rear lamps.
- Central high mounted brake lamp.
- Rear direction indicators.
- Reversing lamps.

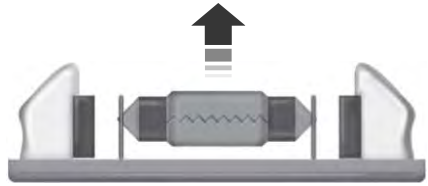
## License Plate Lamp

1. Switch all of the lamps and the ignition off.



E178598

2. Remove the screws that secure the lamp assembly.



E178599

3. Remove the bulb.

## CHANGING THE ENGINE AIR FILTER



**WARNING:** Do not start the engine with the air cleaner removed. This can cause damage not covered by the vehicle Warranty and can result in serious injury.

When changing the air filter element, use only the air filter element listed. See **Capacities and Specifications** (page 228).

For vehicles with EcoBoost engines, when servicing the air cleaner, it is important that no foreign material enters the air induction system. The engine and turbocharger are susceptible to damage from even small particles.

Change the air filter element at the correct interval. See **Scheduled Maintenance** (page 299).

**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.

To replace the air filter element do the following:

# Maintenance

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1. Switch the ignition off.



E173520

2. Remove the clips that secure the air filter housing cover.
3. Carefully lift the air filter housing cover.
4. Remove the air filter element from the air filter housing.
5. 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.
6. Install a new air filter element.
7. Install the air filter housing cover. 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. Engage the clips to secure the air filter housing cover to the air filter housing.

# 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:

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)	

## 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.

# Vehicle Care

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- 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 Headlamps

**Note:** *Do not scrape the headlamp lenses or use abrasives, alcoholic solvents or chemical solvents to clean them.*

**Note:** *Do not wipe the headlamps 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).
- Use a spray with a 40° wide spray angle pattern.
- Keep the nozzle at a 12 in (305 mm) distance and 90° 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.



# Vehicle Care

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## 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.
- 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.

# Vehicle Care

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.

## 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. See **Cleaning Leather Seats** (page 200).

# Vehicle Care

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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.

## CLEANING LEATHER SEATS

**Note:** *Follow the same procedure as cleaning leather seats for cleaning leather instrument panels and leather interior trim surfaces.*

For routine cleaning, wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

For cleaning and removing stains such as dye transfer, use Motorcraft Premium Leather and Vinyl Cleaner or a commercially available leather cleaning product for automotive interiors.

**Note:** *Test any cleaner or stain remover on an inconspicuous area.*

You should:

- Remove dust and loose dirt with a vacuum cleaner.
- Clean and treat spills and stains as soon as possible.

Do not use the following products as these may damage the leather:

- Oil and petroleum or silicone-based leather conditioners.
- Household cleaners.
- Alcohol solutions.
- Solvents or cleaners intended specifically for rubber, vinyl and plastics.

# Vehicle Care

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## 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 such as Motorcraft Bug and Tar Remover to remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout.

Always 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.
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.

# Vehicle Care

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- 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.
- 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.

## 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 battery cables are disconnected.*

## 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.
- 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.

## Vehicle Care

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- 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

The recommended tire inflation pressures are on the tire information label on the driver side B-pillar.

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. See **Technical Specifications** (page 226).

**Note:** Check your tire pressures regularly to optimize fuel economy.

Only use approved wheel and tire sizes. Using other sizes could damage your vehicle and could make the National Type Approval invalid.

Installation of any tires that are not the original equipment tire size can cause the speedometer to display incorrect vehicle speed.

## TIRE CARE

### Information About Uniform Tire Quality Grading



E142542

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 ©)(2).

**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

# Wheels and Tires

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 may 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 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.



# Wheels and Tires

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## **\*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 does 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 does 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 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.

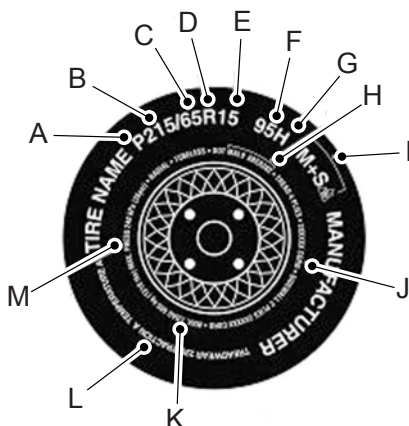
## **Information Contained on the Tire Sidewall**

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and

# Wheels and Tires

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



E142543

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 may be different from this example.

A. **P:** Indicates a tire, designated by the Tire and Rim Association, that may 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 may 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 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 may 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 may 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
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.

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)

# 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 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 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 may 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.

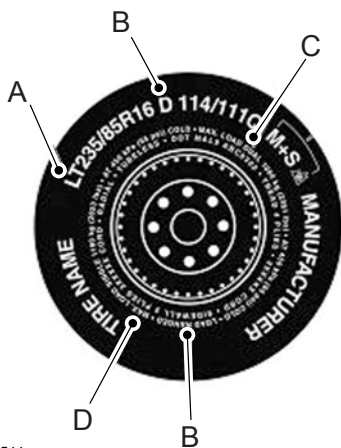
**M. Maximum Inflation Pressure:** Indicates the tire manufacturers' maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the vehicle manufacturer's recommended cold inflation pressure found on the Safety Compliance Certification 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 seating position, or Tire Label which is located on the B-Pillar or the edge of the driver door. The cold inflation pressure should never be set lower than the recommended pressure on the vehicle label.

## Wheels and Tires

The tire suppliers may 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.*



E142544

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).

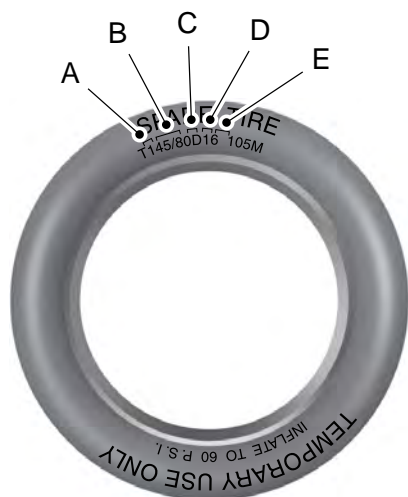
**D. Maximum Load Single lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a single, defined as two tires (total) on the rear axle.

### Information on T Type Tires

T145/80D16 is an example of a tire size.

**Note:** *The temporary tire size for your vehicle may be different from this example. Tire Quality Grades do not apply to this type of tire.*

# Wheels and Tires



E142545

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 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 the spare, if applicable. 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 may 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 may 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 can 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 door.

The Ford recommended tire inflation pressures are 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 door.

Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

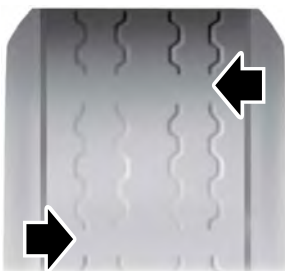
## **Inspecting Your Tires and Wheel Valve Stems**

Periodically inspect the tire treads for uneven or excessive wear and remove objects such as stones, nails or glass that may be wedged in the tread grooves. Check the tire and valve stems for holes, cracks, or cuts that may 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



E142546

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 can 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:

- 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.

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 may 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 may be damaged.

- Make sure that you have the correct tire and wheel size.
- Lubricate the tire bead and wheel bead seat area again.

# 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 may eventually have a flat tire on the highway. Drive slowly to the closest safe area out of traffic. This may further damage the flat tire, but your safety is more important.

If you feel a sudden vibration or ride disturbance when 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 may 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 applicable may require alignment of all four wheels.

The tires should also be balanced periodically. An unbalanced tire and wheel assembly may result in irregular tire wear.

# Wheels and Tires

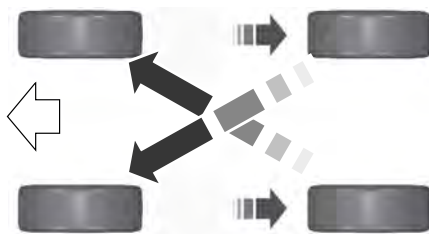
## Tire Rotation

**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 may 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 chapter, can 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.



E142547

## 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.

The original equipment tire size is located 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 door. The 245/55R18 tire uses the Ford recommended tire inflation pressure as shown on the Safety Compliance Certification Label.

# Wheels and Tires

In regions with snow and ice during the winter months, installation of snow tires may be desirable. Snow tires can usually exhibit a drop in dry pavement handling, but may 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.

## 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:** If you choose to install snow tires on your vehicle, they must be the same size, construction, and load range as the original tires listed on the tire placard, and they must be installed on all four wheels. Mixing tires of different size or construction on your vehicle can adversely affect your vehicle's handling and braking, and may lead to loss of vehicle control.



**WARNING:** Do not use snow chains or cables on this vehicle as they may cause damage to your vehicle which may lead to loss of vehicle control.

Snow chains have not been approved for use on your vehicle.

The original equipment tires on your vehicle may have an all-weather tread design to provide traction, handling, and braking performance in year-round driving. You may install snow tires for improved traction when driving in areas with sustained periods of snow or icy driving conditions.

## 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.

# Wheels and Tires

**Note:** *You should only use tire sealants in roadside emergencies as they may cause damage to the tire pressure monitoring system sensor.*

**Note:** *If the tire pressure monitoring system sensor becomes damaged, it may 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 may 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 may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may 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 Licence exempt RSS Standards of Industry Canada. 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.



**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.

# Wheels and Tires

## Changing Tires With a Tire Pressure Monitoring System



E142549

**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 Inflating Your Tires in this chapter.

## Understanding Your Tire Pressure Monitoring System

The tire pressure monitoring system measures pressure in your four road tires and sends the tire pressure readings to your vehicle. 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.

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:

# Wheels and Tires

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 Inflating your tires 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.
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

When putting air into your tires (such as at a gas station or in your garage), the tire pressure monitoring system may not respond immediately to the air added to your tires.

It may 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.



# Wheels and Tires

## 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 may 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 may decrease about 3 psi (21 kPa) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value may 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. 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.

## CHANGING A ROAD WHEEL



**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 will illuminate 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 while 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 218). 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.

## 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 Ford. If the dissimilar spare tire or wheel is damaged, it should be replaced rather than repaired.

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 three types:

1. **T-type mini-spare:** This spare tire begins with the letter T for tire size and may have Temporary Use Only molded in the sidewall.

# Wheels and Tires

## 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.

Drive cautiously when using a full-size dissimilar spare wheel and tire assembly and seek service as soon as possible.

## Tire Change Procedure



**WARNING:** When one of the front wheels is off the ground, the transmission alone will not prevent the vehicle from moving or slipping off the jack, even if the transmission is in park (P).



**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.

# Wheels and Tires

**WARNING:** Do not work on your vehicle when the jack is the only support. If the vehicle slips off the jack, you or someone else could be seriously injured.

**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.

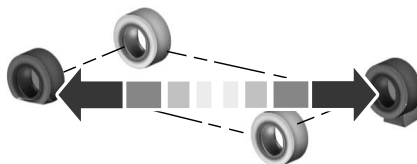
**WARNING:** Always use the jack provided as original equipment with your vehicle. If using a jack other than the one provided, make sure the jack capacity is adequate for the vehicle weight, including any vehicle cargo or modifications. If you are unsure if the jack capacity is adequate, contact the authorized dealer.

**WARNING:** 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.

**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.*

1. Park on a level surface, set the parking brake and activate the hazard flashers.
2. Place the transmission in park (P) and turn the engine off.



E142551

3. Block the diagonally opposite wheel.
4. Lift truck cargo cover, then remove the wingnut that secures the spare tire by turning counterclockwise.
5. Remove the spare tire from the spare tire well.
6. Remove the wing nut bolt that secures the jack kit by turning it counterclockwise.
7. Remove the jack and the wrench from the bag. Fold down the wrench socket to use to loosen the lug nuts and to operate the jack.
8. Loosen each wheel lug nut one-half turn counterclockwise, but do not remove them until the wheel is raised off the ground.



E145908

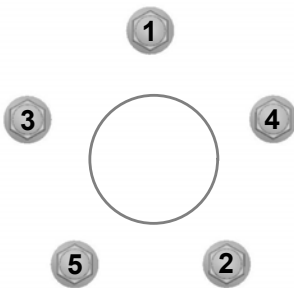
9. The vehicle jacking points are shown here, and are depicted on the warning label on the jack. Small arrow-shaped marks on the sills show the location of the jacking points.

# Wheels and Tires



E201156

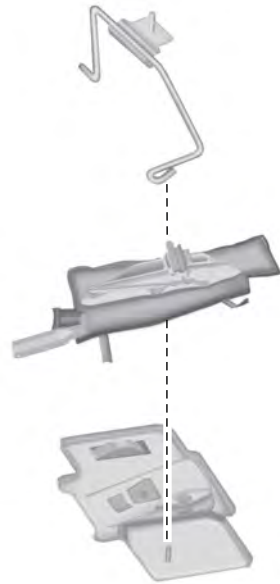
10. Raise the wheel by turning the jack handle clockwise.
11. Remove the lug nuts with the lug wrench.
12. Replace the flat tire with the spare tire, marking sure the valve stem is facing outward. Reinstall the lug nuts until the wheel is snug against the hub. Do not fully tighten the lug nuts until the wheel has been lowered.
13. Lower the wheel by turning the jack handle counterclockwise.



E75442

14. Remove the jack and fully tighten the lug nuts in the order shown. See **Technical Specifications** (page 226).

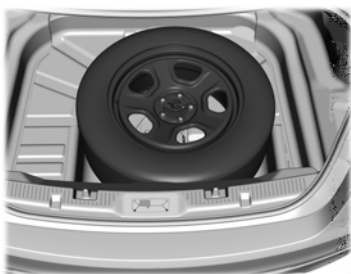
## Stowing the jack and flat tire



E211101

1. Insert the straight end of the jack retention bracket through the eyelet of the angled bracket and swing the retention bracket over the jack. With the jack in place, place the end of the retention bracket over the threaded stud in the trunk floor and secure it with the plastic wing nut.
2. Screw the extension bolt onto the threaded stud of the jack retention bracket.

## Wheels and Tires



E239129

3. Place the flat tire in the spare tire well with the wheel facing up.
4. Safely secure the wheel by screwing the large wing nut onto the extension bolt.

### 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>
1/2-20 x 1.5	110 lb.ft (150 Nm)

<sup>1</sup> Torque specifications are for nut and bolt threads free of dirt and rust. Use only Ford 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.

## Wheels and Tires

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E145950

A Wheel pilot bore

Inspect the wheel pilot bore and mounting surface prior to installation. Remove any visible corrosion or loose particles.

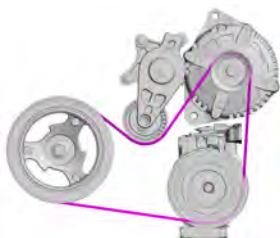
# Capacities and Specifications

## ENGINE SPECIFICATIONS - 3.5L DURATEC

Measurement	Specification
Cubic inches.	214
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.	10.8:1

## Drivebelt Routing

### 3.5L Duratec



E191904

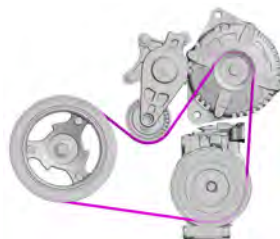
## ENGINE SPECIFICATIONS - 3.5L ECOBOOST™

Measurement	Specification
Cubic inches	214
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	0.030–0.033 in (0.75–0.85 mm)
Compression ratio	10.0:1

# Capacities and Specifications

## Drivebelt Routing

### 3.5L EcoBoost



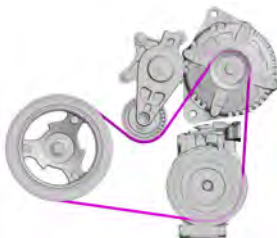
E191904

## ENGINE SPECIFICATIONS - 3.7L

Measurement	Specification
Cubic inches.	227
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.	10.5:1

## Drivebelt Routing

### 3.7L Duratec



E191904



## Capacities and Specifications

### MOTORCRAFT PARTS - 3.5L DURATEC

Component	Motorcraft part number
Air filter element	FA-1884
Engine oil filter	FL-500-S
Transmission oil filter	FT-172
Battery	BXT-65-750
Spark plugs	SP-534
Cabin air filter	FP-68
Windshield wiper blade	WW-2501 (driver side) WW-2043 (passenger side)

We recommend Motorcraft replacement parts available at your Ford dealer or at [fordparts.com](http://fordparts.com) for scheduled maintenance. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 299).

## Capacities and Specifications

### MOTORCRAFT PARTS - 3.5L ECOBOOST™

Component	Motorcraft part number
Air filter element	FA-1884
Engine oil filter	FL-500-S
Transmission oil filter	FT-172
Battery	BXT-65-750
Spark plugs	SP-534
Cabin air filter	FP-68
Windshield wiper blade	WW-2501 (driver side) WW-2043 (passenger side)

We recommend Motorcraft replacement parts available at your Ford dealer or at [fordparts.com](http://fordparts.com) for scheduled maintenance. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 299).

## Capacities and Specifications

### MOTORCRAFT PARTS - 3.7L

Component	Motorcraft part number
Air filter element	FA-1884
Engine oil filter	FL-500-S
Transmission oil filter	FT-172
Battery	BXT-65-750
Spark plugs	SP-520
Cabin air filter	FP-68
Windshield wiper blade	WW-2501 (driver side) WW-2043 (passenger side)

We recommend Motorcraft replacement parts available at your Ford dealer or at [fordparts.com](http://fordparts.com) for scheduled maintenance. These parts meet or exceed Ford Motor Company's specifications and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your warranty may be void for any damage related to use of other parts.

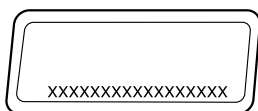
If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 299).

# Capacities and Specifications

## VEHICLE IDENTIFICATION NUMBER

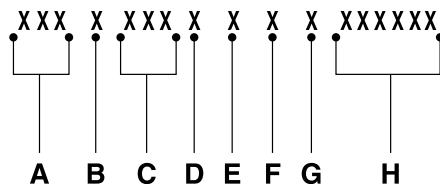
The vehicle identification number is located on the left-hand side of the instrument panel.



E142476

Please note that in the graphic, XXXX is representative of your vehicle identification number.

The Vehicle Identification Number contains the following information:



E142477

- A World manufacturer identifier
- B Brake system, Gross Vehicle Weight Rating, Restraint Devices and their locations
- C Make, vehicle line, series, body type
- D Engine type
- E Check digit
- F Model year
- G Assembly plant
- H Production sequence number

# Capacities and Specifications

## VEHICLE CERTIFICATION LABEL

MFD. BY FORD MOTOR CO.

DATE: XX/XX GVWR: XXXX KG (XXXX LB)

FRONT GAWR: REAR GAWR:

XXXX KG (XXXX LB) WITH XXXX KG (XXXX LB) WITH

XXXXXXXXXXXXXXXXX TIRES XXXXXXXXXXXXXXXXXXXX TIRES


XXXXXXXXX RIMS XXXXXXXX RIMS

AT XXXX kPa/ XXX PSI COLD AT XXXX kPa/ XXX PSI COLD

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: XXXXXXXXXXXXXXXXXXXX XXXXX

TYPE: XXXX XXXXX



EXT PNT: XX XXXXXX RC: XX DSO: XXXX

WB INT TR TP/PS R AXLE TR SPR XXXX

XXX XX XXX X XX X XXXX XXXX

XXXXXXXXXXXXXXXXX XXX XXXXX-XXXXXXXX-XX

E167469

The National Highway Traffic Safety Administration Regulations require that a Safety Compliance Certification Label be affixed to a vehicle and prescribe where the Safety Compliance Certification Label may be located. The Safety Compliance Certification Label shall be affixed to either the door hinge pillar, the door latch post, or the edge of the door near the door latch, next to the driver's seating position.

## TRANSMISSION CODE DESIGNATION

MFD. BY FORD MOTOR CO.

DATE: XX/XX GVWR: XXXX KG (XXXX LB)

FRONT GAWR: REAR GAWR:

XXXX KG (XXXX LB) WITH XXXX KG (XXXX LB) WITH

XXXXXXXXXXXXXXXXX TIRES XXXXXXXXXXXXXXXXXXXX TIRES


XXXXXXXXX RIMS XXXXXXXX RIMS

AT XXXX kPa/ XXX PSI COLD AT XXXX kPa/ XXX PSI COLD

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: XXXXXXXXXXXXXXXXXXXX XXXXX

TYPE: XXXX XXXXX



EXT PNT: XX XXXXXX RC: XX DSO: XXXX

WB INT TR TP/PS R AXLE TR SPR XXXX

XXX XX XXX X XX X XXXX XXXX

XXXXXXXXXXXXXXXXX XX XXXXX-XXXXXXXX-XX

E167814

The transmission code is on the Safety Compliance Certification Label. The following table shows the transmission code along with the transmission description.

Description	Code
Six-speed automatic transmission 6F35	6
Six-speed automatic transmission 6F50	J
Six-speed automatic transmission 6F55	C

# Capacities and Specifications

## CAPACITIES AND SPECIFICATIONS - 3.5L DURATEC

### Capacities



**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.

Item	Capacity
Engine oil (with oil filter).	6.0 qt (5.7 L)
Engine coolant.	11.5 qt (10.9 L)
Brake fluid.	Between MIN/MAX on brake fluid reservoir
Automatic transmission fluid.	10.9 qt (10.3 L) <sup>1</sup>
Windshield washer fluid.	Fill as required
Fuel tank.	19.0 gal (72 L)
A/C refrigerant.	1.81 lb (0.82 kg)
A/C refrigerant compressor oil.	5.24 fl oz (155 ml)

<sup>1</sup> Approximate dry fill capacity. Actual amount may vary during fluid changes.

### Specifications

#### Materials

Name	Specification
Motor oil (U.S.): Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-Q1SP	WSS-M2C945-B1
Motor oil (Canada): Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12	WSS-M2C945-B1
Motor oil (Mexico): Motorcraft® SAE 5W-20 Super Premium Motor Oil MXO-5W20-Q1SP	WSS-M2C945-B1
Engine coolant (U.S. and Mexico):	WSS-M97B44-D2

## Capacities and Specifications

Name	Specification
Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Automatic transmission fluid (U.S. and Mexico): Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON® LV
Automatic transmission fluid (Canada): Motorcraft® MERCON® LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON® LV
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S.): Motorcraft® R-134a Refrigerant YN-19	WSH-M17B19-A
A/C refrigerant (Canada): R-134a Refrigerant CYN-19-R	WSH-M17B19-A
A/C refrigerant (Mexico): Motorcraft® R-134a Refrigerant MYN-19	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft® PAG Refrigerant Compressor Oil YN-12-D	WSH-M1C231-B
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B

## Capacities and Specifications

Name	Specification
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5-A	ESB-MIC93-B
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	-
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	-
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	-

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

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 SN PLUS requirements and display the API Certification Mark for gasoline engines.



E142732



E275759

An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.



# Capacities and Specifications

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty may not cover.

**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 may cause degraded brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.

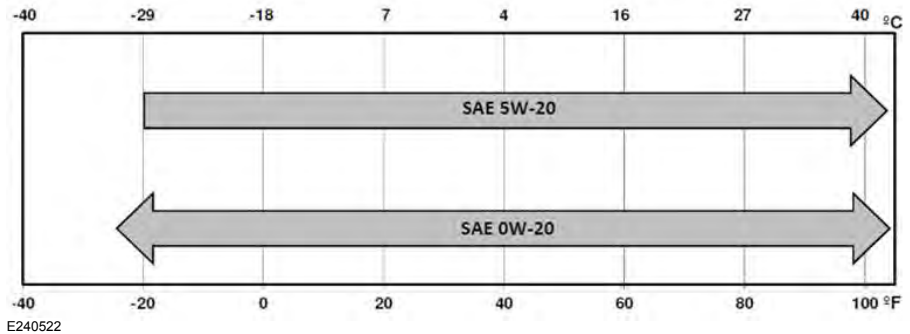
**Note:** Automatic transmissions that require MERCON® LV transmission fluid should only use MERCON® LV transmission fluid. The use of any other fluid may cause transmission damage.

## 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 -22.0°F (-30°C) or below.

### Materials

Name	Specification
Motorcraft® SAE 0W-20 Premium Synthetic Blend Motor Oil: Engine Oil - SAE 0W-20 XO-0W20-Q1SP	WSS-M2C947-B1



## CAPACITIES AND SPECIFICATIONS - 3.5L ECOBOOST™

# Capacities and Specifications

## Capacities



**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.

Item	Capacity
Engine oil (with oil filter).	6.0 qt (5.7 L)
Engine coolant.	11.8 qt (11.2 L)
Brake fluid.	Between MIN/MAX on brake fluid reservoir
Rear axle fluid (All Wheel Drive).	2.4 pt (1.15 L)
Automatic transmission fluid.	11.6 qt (11 L) <sup>1</sup>
Power Transfer Unit (PTU) fluid (All Wheel Drive).	17.9 fl oz (0.53 L)
Windshield washer fluid.	Fill as required
Fuel tank.	19.0 gal (72 L)
A/C refrigerant.	1.6 lb (0.74 kg)
A/C refrigerant compressor oil.	5.24 fl oz (155 ml)

<sup>1</sup> Approximate dry fill capacity. Actual amount may vary during fluid changes.

## Specifications

### Materials

Name	Specification
Motor oil (U.S.): Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil XO-5W30-Q1SP	WSS-M2C946-B1
Motor oil (Canada): Motorcraft® SAE 5W-30 Super Premium Motor Oil CXO-5W30-LSP12	WSS-M2C946-B1
Motor oil (Mexico): Motorcraft® SAE 5W-30 Synthetic Motor Oil	WSS-M2C946-B1

## Capacities and Specifications

Name	Specification
MXO-5W30-Q1SP	
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Rear axle fluid (U.S. and Mexico): Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant XY-80W90-QL	WSP-M2C197-A
Rear axle fluid (Canada): Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant CXY-80W90-1L	WSP-M2C197-A
Automatic transmission fluid (U.S. and Mexico): Motorcraft® MERCON® LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON® LV
Automatic transmission fluid (Canada): Motorcraft® MERCON® LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON® LV
Power Transfer Unit (PTU) fluid (All Wheel Drive) (U.S. and Mexico): Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant XY-75W140-QL	WSL-M2C192-A
Power Transfer Unit (PTU) fluid (All Wheel Drive) (Canada): Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant CXY-75W140-1L	WSL-M2C192-A
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A

## Capacities and Specifications

<b>Name</b>	<b>Specification</b>
A/C refrigerant (U.S.): Motorcraft® R-134a Refrigerant YN-19	WSH-M17B19-A
A/C refrigerant (Canada): R-134a Refrigerant CYN-19-R	WSH-M17B19-A
A/C refrigerant (Mexico): Motorcraft® R-134a Refrigerant MYN-19	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft® PAG Refrigerant Compressor Oil YN-12-D	WSH-M1C231-B
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-M1C75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5-A	ESB-M1C93-B
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	-
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	-
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	-

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.

- Reduced fuel economy.
- Degraded brake performance.

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 SN PLUS requirements and display the API Certification Mark for gasoline engines.

# Capacities and Specifications



E142732



E276075

An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that your vehicle warranty may not cover.

**Note:** We recommends 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 may cause degraded brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.

**Note:** Automatic transmissions that require MERCON® LV transmission fluid should only use MERCON® LV transmission fluid. The use of any other fluid may cause transmission damage.

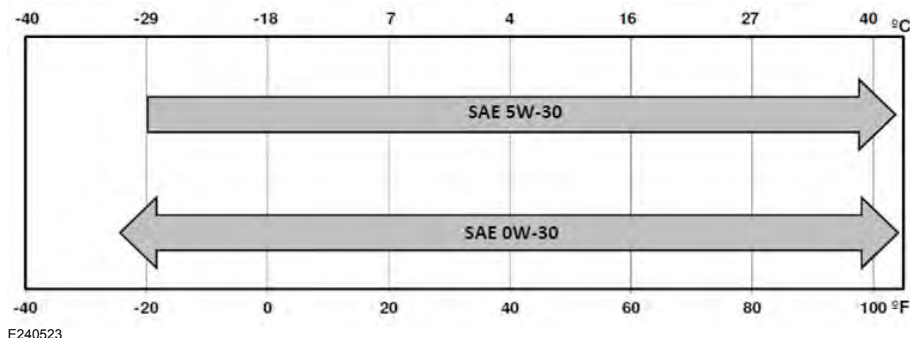
## Alternative Engine Oil for Extreme Cold Climates

To improve engine cold start performance, we recommend that you use the following alternative engine oil in extreme cold climates, where the ambient temperature reaches -22.0°F (-30°C) or below.

### Materials

Name	Specification
Engine Oil - SAE 0W-30	WSS-M2C953-A1

## Capacities and Specifications



## CAPACITIES AND SPECIFICATIONS - 3.7L

### Capacities



**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.

Item	Capacity
Engine oil.	6.0 qt (5.7 L)
Engine coolant.	11.5 qt (10.9 L)
Brake fluid.	Between MIN/MAX on brake fluid reservoir
Rear axle fluid.	2.4 pt (1.15 L)
Automatic transmission fluid (6F50).	10.9 qt (10.3 L) <sup>1</sup>
Power Transfer Unit (PTU) fluid (All Wheel Drive).	17.9 fl oz (0.53 L)
Windshield washer fluid.	Fill as required
Fuel tank.	19.0 gal (72 L)

## Capacities and Specifications

Item	Capacity
A/C refrigerant.	1.81 lb (0.82 kg)
A/C refrigerant oil.	5.24 fl oz (155 ml)

<sup>1</sup> Approximate dry fill capacity. Actual amount may vary during fluid changes.

## Specifications

### Materials

Name	Specification
Motor oil (U.S.): Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP	WSS-M2C945-B1
Motor oil (Canada): Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12	WSS-M2C945-B1
Motor oil (Mexico): Motorcraft® SAE 5W-20 Synthetic Motor Oil MXO-5W20-QSP	WSS-M2C945-B1
Engine coolant (U.S. and Mexico): Motorcraft® Orange Prediluted Antifreeze/Coolant VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft® Orange Prediluted Antifreeze/Coolant CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft® DOT 4 Low Viscosity (LV) High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Rear axle fluid (U.S. and Mexico): Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant XY-80W90-QL	WSP-M2C197-A
Rear axle fluid (Canada): Motorcraft® SAE 80W-90 Premium Rear Axle Lubricant CXY-80W90-1L	WSP-M2C197-A
Automatic transmission fluid (U.S. and Mexico): Motorcraft® MERCON® LV Automatic Transmission Fluid	WSS-M2C938-A MERCON® LV

## Capacities and Specifications

Name	Specification
XT-10-QLVC	
Automatic transmission fluid (Canada): Motorcraft® MERCON® LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON® LV
Power Transfer Unit (PTU) fluid (All Wheel Drive) (U.S. and Mexico): Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant XY-75W140-QL	WSL-M2C192-A
Power Transfer Unit (PTU) fluid (All Wheel Drive) (Canada): Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant CXY-75W140-IL	WSL-M2C192-A
Windshield washer fluid (U.S. and Mexico): Motorcraft® Premium Windshield Wash Concentrate with Bitterant ZC-32-B2	WSS-M14P19-A
Windshield washer fluid (Canada): Motorcraft® Premium Quality Windshield Washer Fluid CXC-37-(A, B, D, F)	WSS-M14P19-A
A/C refrigerant (U.S.): Motorcraft® R-134a Refrigerant YN-19	WSH-M17B19-A
A/C refrigerant (Canada): R-134a Refrigerant CYN-19-R	WSH-M17B19-A
A/C refrigerant (Mexico): Motorcraft® R-134a Refrigerant MYN-19	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft® PAG Refrigerant Compressor Oil YN-12-D	WSH-MIC231-B
Transmission, parking brake linkage and pivots and brake pedal shift grease: Premium Long-Life Grease XG-1-E1	ESA-MIC75-B
Multi-purpose grease: Motorcraft® Multi-Purpose Grease Spray XL-5-A	ESB-MIC93-B



## Capacities and Specifications

Name	Specification
Lock cylinders (U.S.): Penetrating and Lock Lubricant XL-1	-
Lock cylinders (Canada): Penetrating Fluid CXC-51-A	-
Lock cylinders (Mexico): Penetrating and Lock Lubricant MXL-1	-

If you use oil and fluids that do not meet the defined specification and viscosity grade, this may lead to:

- Component damage which is not covered by the vehicle warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.
- Reduced fuel economy.
- Degraded brake performance.

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 SN Plus requirements and display the API Certification Mark for gasoline engines.



E142732

An oil that displays this symbol conforms to current engine, emission system and fuel economy performance standards of ILSAC.

Do not use supplemental engine oil additives because they are unnecessary and could lead to engine damage that may not be covered by your vehicle warranty.

**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 may cause degraded brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials may result in brake system damage and possible failure.

**Note:** Automatic transmissions that require MERCON® LV transmission fluid should only use MERCON® LV transmission fluid. The use of any other fluid may cause transmission damage.

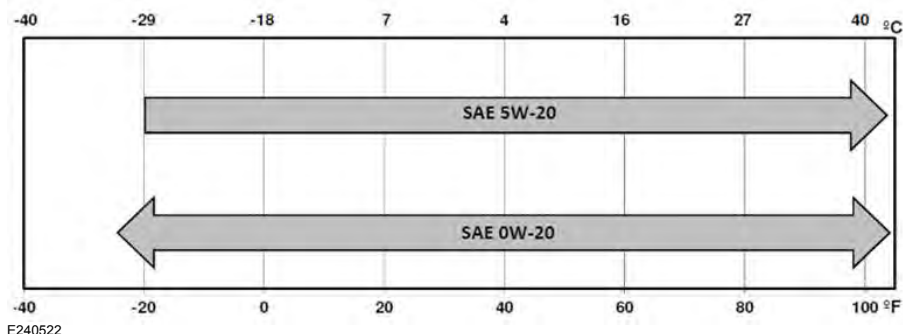
### Alternative Engine Oil for Extremely Cold Climates

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 -22.0°F (-30°C) or below.

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 0W-20 Premium Synthetic Blend Motor Oil: Engine Oil - SAE 0W-20 XO-0W20-QSP	WSS-M2C947-B1



## BULB SPECIFICATION CHART

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.

Replacement bulbs are specified in the chart below. 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 side marker lamps.	LED	LED
Front parking lamps.	LED	LED
Front warning lamp.	LED	LED
Daytime running lamps (If equipped).	LED	LED
Front auxiliary warning lamp.	LED	LED

## Capacities and Specifications

Lamp	Specification	Power (Watt)
Exterior mirror warning lamp.	LED	LED
Front direction indicator.	LED	LED
High-intensity discharge headlamps.	D3S	55
Front fog lamps.	H11	55
Side direction indicator.	LED	LED
Rear quarter window warning lamp.	LED	LED
Rear side marker lamp.	LED	LED
Front auxiliary warning lamp.	LED	LED
Brake and rear lamp.	LED	LED
Central high mounted brake lamp.	LED	LED
Rear direction indicator.	LED	LED
Reversing lamps.	LED	LED
License plate lamp.	W5W	5

**Note:** LED lamps are not serviceable. See an authorized dealer if they fail.

### Interior Lamps

Lamp	Specification	Power (Watt)
Glove compartment lamp.	194	4
Map lamp.	168	5
Interior lamp.	LED	LED
Vanity mirror lamp.	A6224PF	
Overhead console lamp.	W5W	5
Luggage compartment lamp.	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

AM and FM frequencies are established by the Federal Communications Commission (FCC) and the Canadian Radio and Telecommunications Commission (CRTC). Those frequencies are:

- AM: 530-1710 kHz
- FM: 87.9-107.9 MHz

**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.

## CD and CD Player Information

**Note:** *CD units play commercially pressed 4.7 in (12 cm) audio compact discs only. Due to technical incompatibility, certain recordable and re-recordable compact discs may not function correctly when used in the vehicle's CD player.*

**Note:** *Do not insert CDs with homemade paper (adhesive) labels into the CD player as the label may peel and cause the CD to become jammed. You should use a permanent felt tip marker rather than adhesive labels on your homemade CDs. Ballpoint pens may damage CDs. Ask an authorized dealer for more information.*

**Note:** *Do not use any irregularly shaped discs or discs with a scratch protection film attached.*

# Audio System

Always handle discs by their edges only. Clean the disc with an approved CD cleaner only. Wipe it from the center of the disc toward the edge. Do not clean in a circular motion.

Do not expose discs to direct sunlight or heat sources for extended periods.

## MP3 and WMA Track and Folder Structure

Audio systems capable of recognizing and playing MP3 and WMA individual tracks and folder structures work as follows:

- There are two different modes for MP3 and WMA disc playback: MP3 and WMA track mode (system default) and MP3 and WMA folder mode.
- MP3 and WMA track mode ignores any folder structure on the MP3 and WMA disc. The player numbers each MP3 and WMA track on the disc (noted by the MP3 or WMA file extension) from T001 to a maximum of T255. The maximum number of playable MP3 and WMA files may be less depending on the structure of the CD and exact model of radio present.
- MP3 and WMA folder mode represents a folder structure consisting of one level of folders. The CD player numbers all MP3 and WMA tracks on the disc (noted by the MP3 or WMA file extension) and all folders containing MP3 and WMA files, from F001 (folder) T001 (track) to F253 T255.
- Creating discs with only one level of folders helps with navigation through the disc files.

If you are burning your own MP3 and WMA discs, it is important to understand how the system reads the structures you create. While various files may be present (files with extensions other than MP3 and WMA), only files with the MP3 and WMA

extension are played; other files are ignored by the system. This enables you to use the same MP3 and WMA disc for a variety of tasks on your work computer, home computer and your in-vehicle system.

In track mode, the system displays and plays the structure as if it were only one level deep (all MP3 and WMA files play, regardless of being in a specific folder). In folder mode, the system only plays the MP3 and WMA files in the current folder.

## 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.

**Note:** Some features, such as satellite radio, may not be available in your location. Check with an authorized dealer.

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

## Accessing the Auxiliary Media Sources

**AUX**

Press and release to access or switch between media devices.

# Audio System

## Accessing the Clock Settings

**CLOCK** Press and release to access the clock setting.

Use the center arrow controls to change the hours and minutes.


## Accessing the Menu

**MENU** Press and release to access different audio system features.

## Accessing the Phone Features

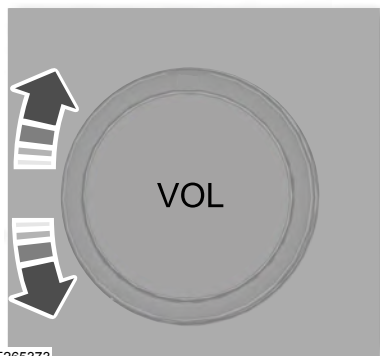
**PHONE** Press and release to access the phone features of the SYNC system.

## Accessing the Sound Settings

 Press and release to access settings for Treble, Midrange, Bass, Fade and Balance.

Use the up and down arrow buttons to select the various settings. Press **OK** to confirm a selection, press the left and right arrow buttons to change the settings. Press **OK** to set or press **MENU** to exit. Sound settings can be set for each audio source independently.

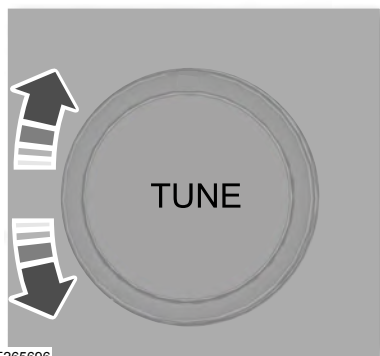
## Adjusting the Volume



E265373

Turn to adjust the volume.

## Changing Radio Stations



E265696

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.

# Audio System

## Ejecting the CD



Press and release to eject a CD.

## Listening to a CD



Press and release to listen to a CD.

## Listening to the Radio



Press and release to listen to the radio or change radio stations.

## Listening to Satellite Radio



Press and release to listen to satellite radio.

## Muting the Audio



Press and release to mute the playing audio.

## Playing or Pausing Media



Press and release to either play or pause the audio.

## Switching the Audio Unit On and Off



Press and release the button.

## Using the Display Control

Use the up and down arrow buttons to select the various settings. When you make your selection, press the left and right arrow buttons to change the settings.



Press and release to confirm a selection.

Press and release the function buttons below the display to select different functions of the audio system depending on which mode you are in.

## Using the Number Block

In radio mode, store and recall your favorite radio stations. To store a radio station, tune to the station, then press and hold a preset button until sound returns. In phone mode, enter a phone number.

## Using Seek, Fast Forward and Reverse



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.

## Menu Structure

Press **MENU**.

Press the up and down arrow buttons to scroll through the options.

Press the right arrow to enter a menu. Press the left arrow to exit a menu.

Press **OK** to confirm a selection.

**Note:** Depending on your system, some options may appear slightly different.

# Audio System

Radio	
Manual Tune	Use the left and right arrows to go up or down the frequency band.
Scan	Select for a brief sampling of all available channels.
AST	Select to store the six strongest local stations on the AM-AST and FM-AST frequency bands.
Set Category for Seek/Scan	Select to have the system search by certain music categories such as Rock, Pop or Country.
RDS Text Display	Select to view additional broadcast data, if available. This feature defaults to off. RDS must be on for you to set a category.

Satellite Radio	
Scan	Select for a brief sampling of all available channels.
Electronic Serial Number (ESN)	Select to view your satellite radio electronic serial number (ESN). You will need this number when communicating with your satellite radio provider to activate, modify or track your account.
Check Channel Guide	Select to view available satellite radio channels. Press <b>OK</b> to open a list of the following options for this channel. Once you skip or lock a channel, you can only access it by pressing <b>Direct Tune</b> and entering the channel number. Locking or unlocking a channel requires your PIN.
Set Category for Seek/Scan	Select to view channel categories such as Pop, Rock or News. If you select a category, seek and scan functions only stop on channels in that category.
Alerts	Select to switch alerts on or off for songs, artists or teams. The system alerts you when the selection is playing on another channel. Save up to 20 alerts.
Unlock All Stations	Use your PIN to unlock previously locked stations.
Skip No Stations	Use to restore any channels you previously skipped.
Parental Lockout	Select to create a PIN, which allows you to lock or unlock channels. Your initial PIN is 1234.



# Audio System

Audio Settings	
Speed Compensated Volume	Automatically adjusts the volume to compensate for speed and wind noise. You can set the system between 0 and +7 or off, low, medium and high.
Sound	Select to adjust settings for Treble, Midrange, Bass, Fade or Balance.
Occupancy Mode	Select to optimize sound quality for the chosen seating position.
Sound Mode	Choose between stereo and surround. Only with the external sound systems.

CD Settings	
Scan All	Select to scan all disc selections.
Scan Folder	Select to scan all music in the current MP3 folder.
CD Compression	Select to bring soft and loud passages together for a more consistent listening level.

Clock Settings	
Set Date and Time	Select to set the time and calendar date.
24 Hour	Select to view clock time in a 12-hour mode or 24-hour mode.

Display Settings	
Brightness	Select to change display brightness.
Language	Select to display the language in English, French or Spanish.
Temp. Setting	Select to display the outside temperature in Fahrenheit or Celsius.

# Audio System

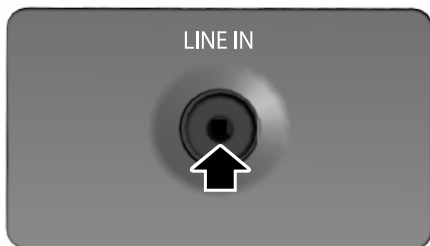
## AUDIO INPUT JACK



**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.



**WARNING:** Always place your device in a secure location in your vehicle so it does not become a projectile in a sudden stop or crash. Failure to follow this instruction could result in personal injury.



E191758

The auxiliary input jack allows you to connect and play music from your portable music player through your vehicle speakers. You can use any portable music player designed for use with headphones. Your audio extension cable must have male connectors at each end.

1. Make sure your vehicle is stationary with the audio unit and the portable music player switched off.
2. Plug the extension cable from the device into the audio input jack.
3. Switch on the radio and select either a tuned FM station or a CD.
4. Adjust the volume as desired.
5. Switch on your device and adjust the volume to half the maximum level.
6. Press **AUX** until **LINE** or **LINE IN** appears in the display. You should hear music from your device even if it is low.
7. Adjust the volume on your device until it reaches the volume level of the FM station or CD. Do this by switching back and forth between the **AUX** and FM or CD controls.

Use the vehicle audio unit buttons to restore playback from the vehicle audio unit, while your device remains connected.

**Note:** The audio extension cable must be long enough for you to safely store the device when your vehicle is moving.

**Note:** For optimum performance when using any auxiliary device set the volume on the device high. This reduces audio interference when charging the device using the vehicle power supply.

**Note:** For safety reasons, do not connect or adjust the settings on your device while your vehicle is moving.

## USB PORT



**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

## Audio System

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.

The media hub may be on the instrument panel or center console.

The media hub may contain one or more of the following inputs:

See **USB Port** (page 255).

See **Audio Input Jack** (page 255).



E201595

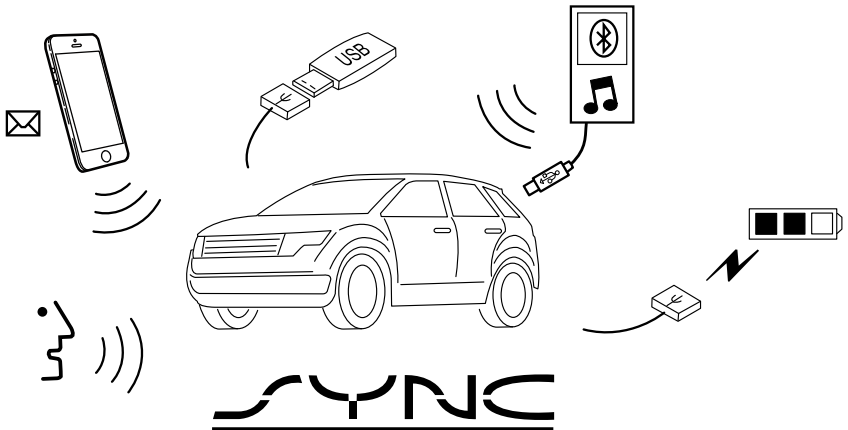
The USB port allows you to plug in media playing devices, memory sticks and charge devices, if supported.

### MEDIA HUB



**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.

## GENERAL INFORMATION



E198355

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, Vehicle Health Report and SYNC Services (Traffic, Directions & Information).\*
- Use applications, such as Stitcher, 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 require activation.

\*\*Available AppLink enabled apps vary by market.

Make sure that you review your device's manual before using it with SYNC.

### Support

The SYNC support team is available to help you with any questions you cannot answer on your own.

Monday-Saturday, 8:30am-9:00pm EST.  
Sunday, 10:30am-7:30pm EST.

In the United States, call 1-800-392-3673.

In Canada, call 1-800-565-3673.

Times are subject to change due to holidays.

## SYNC Owner Account

Why do I need a SYNC owner account?

- Required to activate Vehicle Health Report and to view the reports online.
- Required to activate the subscription-based SYNC Services and to personalize your Saved Points and Favorites.
- 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 the cellular phone or media player is connected. If you no longer plan to use the system or the vehicle, we recommend you perform a Master Reset to erase all stored information.

System data cannot be accessed 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 sections on 911 Assist, Vehicle Health Report, and Traffic, Directions and Information.

## 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 in front of you.

### 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.
- After pressing the voice button, wait until after the tone sounds and Listening appears before saying a command. Any command spoken before this does not register with the system.
- Speak naturally, without long pauses between words.
- At any time, you can interrupt the system while it is speaking by pressing the voice button.

## Initiating a Voice Session



Initiate a voice session by pressing the voice button on the steering wheel controls. See **Voice Control** (page 57).

### When prompted you can say any of the following:

Voice command	If you want the system to carry out the following
Bluetooth Audio	Stream audio from your phone.
Cancel	Cancel the requested action.
mobile (apps   applications)	Access mobile applications.
Phone	Make calls.
USB [1]	Access the device connected to your USB port.
Vehicle Health (Report)	Run a vehicle health report.

Voice command	If you want the system to carry out the following
Voice Settings   Voice Preferences	Adjust the level of voice interaction and feedback.
Help	Hear a list of voice commands available in the current mode.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where (cancel | stop | exit) appears you say; cancel or stop or exit.

You must say any of the voice commands that appear outside of open and close brackets. For example, where mobile (apps | applications) appears, you must say mobile followed by either apps or applications.

You do not need to say words that appear within square brackets. For example, for where (USB [stick] | iPOD | MP3 [player]) appears, you can say USB or USB stick.

**Note:** SYNC Services and Vehicle health report are only available in the United States of America.

## 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 (voice settings). 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



Initiate a voice session by pressing the voice button on the steering wheel controls. See

**Voice Control** (page 57).

### When prompted say the following:

Voice command	If you want the system to carry out the following
Voice Settings   Voice Preferences	
<b>Followed by either of the following:</b>	
Interaction Mode Standard	Provide more detailed interaction and guidance.
Interaction Mode Advanced	Provide less audible interaction and more tone prompts.

The system defaults to the standard interaction mode.

Confirmation prompts are short questions the system asks when it is not sure of your request or when there are multiple possible responses to your request. For example, the system may ask "Phone, is that

correct?". If turned off, the system simply makes a best guess as to what you requested and may ask you to confirm settings.

Voice command	If you want the system to carry out the following
Confirmation Prompts Off	Make a best guess from the command; you may still occasionally be asked to confirm settings.
Confirmation Prompts On	Clarify your voice command with a short question.

The system creates candidate lists when it has the same confidence level of several options based on your voice command. When turned on, it may prompt you with as many as four possibilities for clarification.

For example, say "Say 1 after the tone to call John Doe at home. Say 2 after the tone to call Johnny Doe on mobile. Say 3 after the tone to call Jane Doe at home." You could also say "Say 1 after the tone to play John Doe, Say 2 after the tone to play Johnny Doe."

Voice command	If you want the system to carry out the following
Media Candidate Lists Off	Make a best guess from the media candidate list. You may still occasionally be asked questions.
Media Candidate Lists On	Clarify your voice command for media candidates.
Phone Candidate Lists Off	Make a best guess from the phone candidate list. You may still occasionally be asked questions.
Phone Candidate Lists On	Clarify your voice command for phone candidates.



## 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 cell phone's functionality. At a minimum, most cell phones with Bluetooth wireless technology support the following functions:

- Answering an incoming call.
- Ending a call.
- Using privacy mode.
- Dialing a number.
- Redialing.
- Call waiting notification.
- Caller identification.

Other features, such as text messaging using Bluetooth and automatic phonebook download, are cell phone-dependent features. To check your cell phone's compatibility, see your cell phone's manual and visit [www.SYNCMyRide.com](http://www.SYNCMyRide.com), [www.SYNCMyRide.ca](http://www.SYNCMyRide.ca) or [www.syncmaroute.ca](http://www.syncmaroute.ca).

### Pairing Your Cell Phone for the First Time

**Note:** SYNC can support downloading up to approximately 1000 entries per Bluetooth-enabled cell phone.

**Note:** Make sure to switch on the ignition and the radio. Put the transmission in position park (**P**) (automatic transmission) or neutral with the parking brake applied (manual transmission).

**Note:** To scroll through the menus, press the up and down arrows on your audio system.

Wirelessly pairing your cell phone with SYNC allows you to make and receive hands-free calls.

**Press the phone button. When the display indicates there is no cell phone paired, do the following:**

Message	Action and Description
NO PHONE	Press the <b>OK</b> button.
FIND SYNC	<ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Put your cell phone into Bluetooth discovery mode. See your device's manual if necessary.</li> <li>3. When prompted on your cell phone's display, enter the six-digit PIN provided by SYNC in the radio display. The display indicates when the pairing is successful.</li> </ol>

Depending on your cell phone's capability and your market, the system may prompt you with questions, such as setting the current cell phone as the primary cell phone (the cell phone SYNC automatically tries to connect with first upon vehicle start-up) and downloading your phonebook.

## Pairing Subsequent Cell Phones

**Note:** To scroll through the menus, press the up and down arrows on your audio system.

**Note:** Make sure to switch on the ignition and the radio. Put the transmission in position park (**P**) (automatic transmission) or neutral with the parking brake applied (manual transmission).

## Press the phone button, then scroll to:

Message	Action
PHONE SETNGS	Press the <b>OK</b> button.
BT DEVICES	Press the <b>OK</b> button.
ADD DEVICE	Press the <b>OK</b> button. When the following message appears in the display.
FIND SYNC	<ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Put your cell phone into Bluetooth discovery mode. See your device's manual if necessary.</li> <li>3. When prompted on your cell phone's display, enter the six-digit PIN provided by SYNC in the radio display. The display indicates when the pairing is successful.</li> </ol>

The system then prompts with questions, such as if you would like to set the current cell phone as the primary cell phone (the cell phone SYNC automatically tries to connect with first upon vehicle start-up) or download your phonebook.

## Phone Voice Commands

### Press the voice icon and say:

Voice Commands
Phone
<b>You can then say any of the following commands.</b>
Call History Incoming
Call History Missed
Call History Outgoing

### Voice Commands

Phonebook ____
Phonebook ____ at Home
Phonebook ____ at Work
Phonebook ____ in Office
Phonebook ____ on Cell

\_\_\_\_ is a dynamic listing that should be the name of a contact in your phonebook. For example you could say "Call Mom".

## You can also say any of the following:

Voice Command
Call ____
Call ____ at Home
Call ____ at Work
Call ____ in Office
Call ____ on Mobile
Call ____ on Other
Dial

None of these commands are available until your cell phone information is completely downloaded using Bluetooth.

\_\_\_\_ is a dynamic listing that should be the name of a contact in your phonebook. For example you could say "Call Mom".

## The following commands are only available during active calls:

Voice Commands
Go To Privacy
Hold
Join

## Phone Menu Commands

To access the phone menu with voice commands, press the voice button and when prompted say:

Voice Command
[Phone] Menu
<b>You can then say any of the following:</b>
[Phone] Connections   [Media] Connections   [Bluetooth] Connections

Voice Command
[Phone] Settings [Message] Notification On
[Phone] Settings [Message] Notification Off
[Phone] Settings [Set] Phone Ringer
[Phone] Settings [Set] Ringer 1
[Phone] Settings [Set] Ringer 2
[Phone] Settings [Set] Ringer 3
[Phone] Settings [Set] Ringer Off
Battery
Phone Name
Signal
Text Message Inbox
Send [New] Text Message

You do not need to say word contained within brackets for the system to understand your command.

**Note:** To exit dial mode, press and hold the phone button or press MENU to go to the PHONE menu.

## Phonebook Commands

When you ask SYNC to access content, for example the phonebook name or number, the requested information appears in the display to view.

## Making a Call

**Press the voice button and when prompted say:**

Voice Command	Action and Description
Call ____	This command is not available until your cell phone information is completely downloaded using Bluetooth.
Dial	Use to enter a phone number digit by digit.
<b>When the system confirms the number say one of the following commands:</b>	
Dial	To confirm the number and initiate the call.
delete	To erase the last spoken digit. You can also press the left arrow button.
clear	To erase all spoken digits. You can also press and hold the left arrow button.

To end a call, press and hold the red phone button.

## Receiving Calls

When receiving a call, you can:

- Answer the call by pressing the phone button.
- Reject the call by pressing and holding the red phone button.
- Ignore the call by doing nothing.

## Phone Options during an Active Call

During an active call, you have more menu features that become available, for example putting a call on hold or joining calls. Use the arrow buttons to scroll through the menu options.

**Press the MENU button during an active call, then scroll to:**

Message	Action and Description
CALL MENU	Press the <b>OK</b> button.
<b>Select one of the following:</b>	
PRIVACY	Press the <b>OK</b> button to switch a call from an active hands-free environment to your cell phone for a more private conversation.
CALL HOLD	Press the <b>OK</b> button to put an active call on hold.
JOIN CALLS	Join two separate calls. SYNC supports a maximum of three callers on a multiparty call or conference call.

Message	Action and Description	
	<ol style="list-style-type: none"> <li>1. Press the phone button.</li> <li>2. Access the desired contact through SYNC or use voice commands to place the second call. Once actively in the second call, press <b>MENU</b>.</li> <li>3. Scroll to Join Calls, and press the <b>OK</b> button. Wait until the following message appears.</li> </ol>	
	JOIN CALLS	Press the <b>OK</b> button.
ENTER TONES	Enter tones such as numbers for passwords. Scroll until the desired number appears in the display, then press OK; a tone sounds as confirmation. Repeat as necessary.	
PHONEBOOK	<p>To access your phonebook contacts.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button to select, and then scroll through your phonebook contacts.</li> <li>2. Press the <b>OK</b> button again when the desired selection appears in the display.</li> <li>3. Press the phone button to call the contact.</li> </ol>	
CALL HISTORY	<p>To access your call history log.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button to select, then scroll through your call history options (incoming, outgoing or missed).</li> <li>2. Press the <b>OK</b> button when the desired selection appears in the display.</li> <li>3. Press the phone button to call the selection.</li> </ol>	
RETURN	Exit the current menu.	

## Accessing Features Through the Phone Menu

The phone menu allows you to redial a number, access your call history and phonebook and sends text messages as well as access cell phone and system settings. You can also access advanced features, for example 911 Assist, Vehicle Health Report and SYNC Services.

**Press the phone button to enter the Phone Menu, then scroll to:**

Message	Action and Description
PHONE REDIAL	Press the <b>OK</b> button to redial the last number called. Press the <b>OK</b> button again to confirm.
PHONE REDIAL	Access any previously dialed, received or missed calls after you connect your Bluetooth-enabled cell phone to SYNC. <sup>1</sup>  Press the <b>OK</b> button then select one of the following and press the <b>OK</b> button again to confirm.  INCOMING  OUTGOING  MISSED  The system attempts to automatically re-download your phonebook and call history each time your cell phone connects to SYNC (if the auto download feature is on and your Bluetooth-enabled cell phone supports this feature).
PHONEBOOK	<div> <p>To browse your phonebook select:</p> <p>BROWSE</p> <p>Press <b>OK</b>. Scroll down or up to the desired name and press <b>OK</b>. In addition to the Phonebook entry name, the phone number label (Work, Cell, Home or Other) shows on the display. If there are multiple phone number entries for a particular Phonebook name, you can scroll through the different phone labels at this time. Once you have the desired phone label on the screen press <b>OK</b>. The phone number that is stored under the selected label will be shown on the display. Press <b>OK</b> to dial this number.</p> </div> <div> <p>To search for a contact in your phone book select:</p> <p>SEARCH</p> <p>Press <b>OK</b>. Scroll down until you see the first letter of your phonebook entry. Press <b>OK</b>. Scroll down until you see the second letter of your desired phonebook entry. Press <b>OK</b>.</p> </div>

Message	Action and Description
	<p>Repeat entering letters to narrow your search. When you are satisfied with your entry press the right arrow key on the bezel.</p> <p>SYNC will jump to the phonebook contact name that matches your entry. Press <b>OK</b>.</p> <p>In addition to the Phonebook entry name, the phone number label (Work, Cell, Home or Other) shows on the display. If there are multiple phone number entries for a particular Phonebook name, you can scroll through the different phone labels at this time. Once you have the desired phone label on the screen press <b>OK</b>.</p> <p>The phone number that is stored under the selected label will be shown on the display. Press <b>OK</b> to dial this number.</p>
TEXT MESSAGE	Press the <b>OK</b> button to send, download, read and delete text messages. <sup>1</sup>
PHONE SETNGS	View your cell phone's status, set ring tones, select your message notification, change phonebook entries and automatically download your cell phone content among other features. <sup>1</sup>
SYNC Services	Access the SYNC Services portal where you can request various types of information, for example traffic reports and directions. <sup>2</sup>
911 Assist	Automatically place an emergency call to a 911 operator following a crash. <sup>3</sup>
Vehicle Health	Create and receive a diagnostic report card on your vehicle. <sup>2</sup>
APPLICATIONS	Interact with SYNC-capable mobile applications on your smart-phone.
SYS SETTINGS	Access Bluetooth Devices menu listings and advanced menu listings.
EXIT MENU	Press the <b>OK</b> button to exit the phone menu.

<sup>1</sup> This is a cell phone-dependent feature.

<sup>2</sup> This is an optional feature and available in the United States only.

<sup>3</sup> This is an optional feature and available in the United States and Canada only.

## Text Messaging

**Note:** This is a cell phone-dependent feature.

SYNC allows you to receive, send, download and delete text messages. The system can also read incoming text messages to you so that you do not have to take your eyes off the road.

### Receiving a Text Message

**Note:** This is a cell phone-dependent feature. Your cell phone must support downloading text messages using Bluetooth to receive incoming text messages.

**Note:** Forwarding a text message is a speed-dependent feature. It is only available when your vehicle is traveling at 3 mph (5 km/h) or less.

**Note:** Only one recipient is allowed per text message.

When a new text message arrives, an audible tone sounds and the information display indicates you have a new message.

### Following the notification you can do any of the following:

Do nothing to have the message go into your text message inbox.

**To have SYNC read you the message using voice commands, press the voice button and when prompted say:**

Voice Command	Action and Description
Read Message   Read Text Message   Text Message	SYNC will read the most recent text message to you.

To open the text message, press OK to receive and open the text message. Press OK again and SYNC reads your message aloud as you are not able to view the message. You can then also choose whether you'd like to reply or forward the message.

**Reply or forward the message, press OK and scroll to choose between:**

Message	Action and Description
REPLY TO MSG	Press the <b>OK</b> button to access and then scroll through the list of pre-defined messages to send.
FORWARD MSG	Press the <b>OK</b> button to forward the message to anyone in your Phonebook or Call History. You can also choose enter a number.



## Sending, Downloading and Deleting Your Text Messages

Text messaging is a cell phone-dependent feature. If your cell phone is compatible, SYNC allows you to receive, send, download and delete text messages.

**Note:** Sending a text message is a speed-dependent feature. It is only available when your vehicle is traveling at 3 mph (5 km/h) or less.

**Note:** You can only have one recipient per text message.

### Press the phone button, then scroll to:

Message	Action and Description
TEXT MESSAGE	Press the <b>OK</b> button.
<b>Select one of the following:</b>	
SEND MSG?	Allows you to send a new text message based on a pre-defined set of 15 messages. <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Scroll to your desired message.</li> <li>3. Press the <b>OK</b> button.</li> <li>4. Scroll through your phonebook, call history entries or enter a new number.</li> <li>5. Press the <b>OK</b> button to enter the desired contact.</li> <li>6. Press the <b>OK</b> button again when the system asks if you would like to send the message. The system sends each text message with the following signature: This message was sent from my Ford.</li> </ol>
DOWNLOAD MSG	Allows you to download your unread messages to SYNC. To download the messages, press the <b>OK</b> button to select. The display indicates the system is downloading your messages. When downloading is complete, SYNC returns you to the inbox.
DELETE ALL	Allows you to delete current text messages from SYNC. To delete the messages, press the <b>OK</b> button to select. The display indicates when it is finished deleting all your text messages. SYNC returns you to the text message menu.
RETURN	Press the <b>OK</b> button to exit the current menu.

## Accessing Your Phone Settings

These are cell phone-dependent features. Your cell phone settings allow you to

access and adjust some features. For example ring tones, text message notification, modify your phonebook and set up automatic download.

### Press the phone button, then scroll to:

Message	Action and Description	
PHONE SETNGS	Press the <b>OK</b> button.	
Select one of the following:		
PHONE STATUS	See the provider, name, signal power, battery power and roaming status of your connected cell phone. Press <b>OK</b> to select and scroll to view the information. When done, press <b>OK</b> again to return to the phone status menu.	
SET RINGER	Select which ring tone sounds during an incoming call. You can choose one of the system ring tones or your cell phone ring tones. Press the <b>OK</b> button and scroll to hear the available options. You can also choose to use to use your phone's ring tone.	
	Press the <b>OK</b> button to select the desired ring tone. If your cell phone supports in-band ringing, your cell phone ring plays when you choose the phone ringer option.	
MSG NTFY	You have the option of hearing an audible tone to notify you when a text message arrives. Press the <b>OK</b> button then select one of the following and press the <b>OK</b> button again to confirm.  MSG NTFY ON  MSG NTFY OFF	
MODIFY PHONEBOOK	Modify the contents of your phone book (such as add, delete, down-load). Press OK to select and scroll between:	
	ADD CONTACTS	Press the <b>OK</b> button to add more contacts from your phonebook. Push the desired contact(s) on your cell phone. See your cell phone's manual on how to push contacts.
	DELETE PHONEBOOK	Press <b>OK</b> to delete the current phone book and call history. When Delete Phonebook appears, press OK to confirm. SYNC takes you back to the Phone Settings menu.

Message	Action and Description	
	DOWNLOAD PHONEBOOK	Press <b>OK</b> to select and press OK again when Confirm Download? appears.
AUTODOWN-LOAD		Automatically download your phone book each time your phone connects to SYNC. Press OK to select.
	AUTO ON?	When this message appears, press <b>OK</b> to have your phonebook automatically downloaded each time. Select Off to NOT download your phonebook every time your phone connects to SYNC. Your phonebook, call history and text messages can only be accessed when your specific phone is connected to SYNC. *
SPEAK NAMES	When enabled, SYNC speaks the contact name that is displayed on the screen during phonebook browsing.	
RETURN	Exit the current menu.	

\* Downloading times are cell phone-dependent and quantity-dependent. When Auto Download is on, it automatically deletes any changes, additions or deletions saved since your last download.

## System Settings

This menu provides access to your Bluetooth Devices and Advanced menu features. Use the arrow buttons to scroll through the menu options.

## Bluetooth Devices

The Bluetooth Devices menu allows you to add, connect and delete devices, set a cell phone as primary as well as turn your Bluetooth feature on and off.

**Press the Phone button to enter the Phone Menu, then scroll to:**

Message	Action and Description
SYS SETTINGS	Press the <b>OK</b> button.
BT DEVICES	Press the <b>OK</b> button.
<b>Select one of the following:</b>	
ADD DEVICE	See <b>Using SYNC™ With Your Phone</b> (page 262). <sup>1</sup>
CONNECT BT	Connect a previously paired Bluetooth-enabled phone. <sup>2</sup> Press <b>OK</b> to select and view a list of previously paired phones. Scroll until the desired device is chosen, then press OK to connect the phone.
SET PRIMARY?	Set a previously paired phone as your primary phone. <sup>3</sup>

Message	Action and Description
	Press <b>OK</b> to select and scroll to select the desired phone. Press <b>OK</b> to confirm.
BT ON/OFF	Turn the Bluetooth feature on and off. <sup>4</sup> Press <b>OK</b> and scroll to toggle between On and Off. When the desired selection is chosen, press <b>OK</b> . Setting Bluetooth to off disconnects all Bluetooth devices and turns off all Bluetooth features.
DEL DEVICE	Delete a paired cell phone. Press the <b>OK</b> button and scroll to select the device. Press <b>OK</b> to confirm.
DELETE ALL	Delete all previously paired phones (and all information originally saved with those phones). Press <b>OK</b> to select.
RETURN	Exit the current menu.

<sup>1</sup> This is a speed-dependent feature. It is only available when your vehicle is traveling at 3 mph (5 km/h) or less.

<sup>2</sup> You can only connect one device at a time. When another cell phone is connected, the previous one is disconnected.

<sup>3</sup> SYNC attempts to connect with the primary phone at every ignition cycle. When a phone is selected as primary, it appears first in the list and is marked with an asterisk (\*).

<sup>4</sup> Turning Bluetooth off disconnects all Bluetooth devices and deactivates all Bluetooth features.

## Advanced

The Advanced menu allows you to access and set prompts, languages, defaults, perform a master reset, install an application and view system information.

**To access the advanced menu, press the phone button to enter the Phone Menu, the scroll to:**

Message	Action and Description
SYS SETTINGS	Press <b>OK</b> .
ADVANCED	Press <b>OK</b> .
<b>Select one of the following:</b>	

Message	Action and Description	
PROMPTS	<p>Get help from SYNC by using questions, helpful hints or asking you for a specific action. To turn these prompts on or off:</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button to select and scroll to select between On and Off.</li> <li>2. Press the <b>OK</b> button when the desired selection appears in the display. SYNC returns you to the Advanced menu.</li> </ol>	
LANGUAGES	<ol style="list-style-type: none"> <li>1. Press <b>OK</b> to select and then scroll through the languages. Choose between English, Français and Español. Once selected, all of the radio displays and prompts are in the selected language.</li> <li>2. Press <b>OK</b> when the desired selection appears in the display. If you change the language setting, the display indicates that the system is updating. When complete, SYNC returns you to the Advanced menu.</li> </ol>	
DEFAULTS	<p>Return to the factory default settings. This selection does not erase your indexed information, for example phonebook, call history, text messages or paired devices.</p> <p>Press the <b>OK</b> button to select and then press <b>OK</b> again when the following message appears in the display.</p> <p>RESTORE?</p>	
MASTER RESET	<p>Completely erase all information stored on SYNC, for example phonebook, call history, text messages and paired devices, and return the system to the factory default settings.</p> <p>Press <b>OK</b> to select. The display indicates when complete. SYNC returns you to the Advanced menu.</p>	
SYNC REBOOT	Press <b>OK</b> to select.	
	CONFIRM REBOOT?	Press <b>OK</b> to select. You only need to press the OK button once. SYNC will be unresponsive for 2-4 minutes while it is rebooting. Wait 2-4 minutes before attempting to execute a SYNC command
INSTALL APP	<p>Install applications you have downloaded.</p> <p>Press the <b>OK</b> button and scroll to select. Press the <b>OK</b> button to confirm.</p>	
SYSTEM INFO	<p>Access the Auto Version number as well as the FDN number.</p> <p>Press the <b>OK</b> button to select.</p>	
RETURN	Exit the current menu.	

## SYNC™ APPLICATIONS AND SERVICES

In order for the following features to work, your cell phone must be compatible with SYNC. To check your phone's compatibility, visit [www.SYNCMyRide.com](http://www.SYNCMyRide.com), [www.SYNCMyRide.ca](http://www.SYNCMyRide.ca) or [www.syncmaroute.ca](http://www.syncmaroute.ca).

- 911 Assist: Can alert 911 in the event of an emergency.

### 911 Assist (If Equipped)



**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:** 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 turns 911 Assist on or off, that setting applies for all paired phones. If 911 Assist is turned off, either a voice message plays or a display message (or icon) comes on (or both) when your vehicle is started 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. You can learn more about the 911 Assist feature, visit [www.SYNCMyRide.com](http://www.SYNCMyRide.com), [www.SYNCMyRide.ca](http://www.SYNCMyRide.ca) or [www.syncmaroute.ca](http://www.syncmaroute.ca).

See **Supplementary Restraints System** (page 38). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 152). Important information about the fuel pump shut-off is in this chapter.

## Switching 911 Assist On or Off

**Press the phone button to enter the phone menu and scroll to:**

Message	Action and Description
911 Assist	Press the <b>OK</b> button to confirm and enter the 911 Assist menu.
On Off	Press the <b>OK</b> button when the desired option appears in the radio display.

## Off selections include:

Message	Action and Description
Off with reminder:	Provides a display and voice reminder at phone connection at vehicle start.
Off without reminder:	Provides a display reminder only without a voice reminder at phone connection.

To make sure that 911 Assist works correctly:

- 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 will 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 will search for and try to connect to a previously paired cell phone; SYNC will then attempt 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 is 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 turn 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 turn the feature on.

## SYNC™ APPLINK™

### SYNC Mobile Apps

**Note:** You must pair and connect your smartphone to SYNC to access AppLink.

**Note:** iPhone users need to connect the phone to the USB port in order to start the application.

**Note:** The AppLink feature is not available if your vehicle is equipped with the MyFord Touch system.

**Note:** Depending on your display type, you can access AppLink from the media menu, the phone menu, or by using voice commands. Once an app is running through AppLink, you can control main features of the app through voice commands and steering wheel controls.

### To Access Using the Phone Menu

**Press the phone button to access the SYNC phone menu on-screen. You can then scroll to:**

Menu item	
Mobile Apps	Press <b>OK</b> to access a list of available applications. Scroll through the list of available applications and press OK to select a particular app. Once an app is running through SYNC, you can access an app's menu by pressing the <b>MENU</b> button to first access the SYNC menu.

Scroll until the app name followed by "Menu", is displayed (such as, sticher Menu), then press **OK**. From here, you can access an application's features, such as Thumbs up and Thumbs down.

### For more information, please visit:

Website
<a href="http://www.SYNCMyRide.com">www.SYNCMyRide.com</a>

### To Access Using the Media Menu

Press the **AUX** button on the center console.



## Press the Menu button to the SYNC menu and scroll to:

Menu item	Action and description
SYNC-Media	Press the <b>OK</b> button.
Mobile Apps	Press the <b>OK</b> button and scroll through the list of available applications and select your desired app.

Scroll until the app name followed by "Menu", is displayed (such as, Stitcher Menu), then press **OK**. From here, you can access an application's features, such as Thumbs up and Thumbs down.

## For more information, please visit:

Website
<a href="http://www.SYNCMyRide.com">www.SYNCMyRide.com</a>

## To Access Using Voice Commands

### Press the voice button and when prompted say:

Voice command	Action and description
Mobile Apps	Say the name of the application after the tone. The app should start. While an app is running through SYNC, you can press the voice button and speak commands specific to the app, for example, "Playlist Road Trip".

### You can also say the following:

The name of an app (such as Stitcher) followed by "help".	To discover the available voice commands.
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## USING SYNC™ WITH YOUR MEDIA PLAYER

You can access and play music from your digital music player over your vehicle's speaker system using the system's media menu or voice commands. You can also sort and play your music by specific categories, for example artist and album.

**Note:** The system is capable of indexing up to 6,000 songs.

SYNC is capable of hosting nearly any digital media player including: iPod®, Zune™, plays from device players, and most USB drives. SYNC also supports the following audio formats MP3, WMA, WAV and ACC.

## Connecting Your Digital Media Player to the USB Port

**Note:** If your digital media player has a power switch, make sure you switch it on before plugging it in.

## To Connect Using Voice Commands

Plug the device into the USB port. See **USB Port** (page 255).



**Press the voice button and when prompted say:**

Voice command	Action and Description
USB [1]	You can now play music by saying any of the appropriate voice commands. See Media voice commands.

You do not need to say words that appear within square brackets. For example, for where USB[1] appears, you can say USB or USB one.

## To Connect Using the System Menu

Plug the device into the USB port. See **USB Port** (page 255).

Press the **AUX** button, then the **Menu** button to enter the Media Menu.

**You can then scroll to:**

Message	Action and Description
SELECT SRC	Press the <b>OK</b> button.
SYNC USB	Press the <b>OK</b> button. Depending on how many digital media files are on your connected device, the following message may appear in the radio display. Indexing...

**When indexing is complete, the screen returns to the Play menu. You can then select one of the following:**

PLAY ALL	
ARTISTS	
ALBUMS	
GENRES	
PLAYLISTS	
TRACKS	
EXPLORE USB	
SIMILARMUSIC	
RETURN	Exit the current menu.

## What's Playing?

When a track is playing, you can ask the system to tell you what is currently playing.

**Press the voice button and when prompted say:**

Voice command	Action and Description
Whats This?   Whats Playing?	The system reads the metadata tags of the playing track, and if the metadata tags are populated, the system will tell you what track is playing.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where; (what's | what is) appears you say; what's or what is.

You must say any of the voice commands that appear outside of open and close brackets. For example, where text shows: (what's | what is) playing, you must say; "what's playing" or "what is playing".

## Media Voice Commands

**Press the voice button and when prompted say any of the following:**

Voice command
USB [1]
You can then say any of the following
[Phone] Connections   [Media] Connections   [Bluetooth] Connections
Pause
Play
Play All
Play Artist ____
Play Album ____
Play Genre ____
[Play] Next Folder
[Play] Next Track   [Play] Next Song

Voice command	
Play Playlist ____	1,2
[Play] Previous Folder	3
[Play] Previous Track   [Play] Previous Song	
[Play] Next Track   [Play] Next Song	1,2
Repeat [On]	
Repeat Off	
Shuffle [On]	
Shuffle Off	
Search Album ____	1,2
Search Artist ____	1,2

Voice command		
Search Genre ____	The system searches all the data from your indexed music and, if available, begins to play the chosen type of music. You can only play genres of music which are present in the GENRE metadata tags that you have on your digital media player.	1,2
Search Track ____   Search Song ____	The system searches for a specific artist/track/album from the music indexed through the USB port.	1,2
Refine album ____	This allows you to make your previous command more specific. By using this command you can filter through a previous selection, such as an artist to play only specific album.	1,2
Similar Music	The system compiles a playlist and then plays similar music to what is currently playing from the USB port using indexed metadata information.	

Voice command	
Autoplay Off	
Autoplay [on]	Turn autoplay on to listen to music processed during indexing. Turn autoplay off to allow the indexing process to finish before the system plays any of your music.

<sup>1</sup> \_\_\_\_ is a dynamic listing, meaning that it could be the name of anything, such as a group, artist or song. For example you could say "Play artist The Beatles".

<sup>2</sup> This voice command is not available until indexing is complete.

<sup>3</sup> This voice command is only available in folder mode.

## Bluetooth Audio Command Guide

### Press the voice button and say:

Voice command
Bluetooth Audio
You can then say any of the following:
[Phone] Connections   [Media] Connections   [Bluetooth] Connections
Pause
Play
[Play] Next Track   [Play] Next Song
[Play] Previous Track   [Play] Previous Song

## Media Menu Features

The media menu allows you to select your media source, how to play your music, for example by artist, genre, shuffle or repeat, and to add, connect or delete devices.

Press the **AUX** button, then the **Menu** button to enter the Media Menu.

**You can then scroll to:**

Message		Action and Description
PLAY MENU		Play your music by artist, album, genre, playlists, tracks, similar music or to simply, play all. You can also choose to Explore USB to view the supported digital music files on your playing device. See Play Menu later in this section for more information.
<b>Select one of the following:</b>		
SELECT SRC	SYNC USB	Press the <b>OK</b> button to access music plugged into your USB port. You can also plug in devices to charge them (if supported by your device). Once connected, the system indexes any readable media files. <sup>1</sup>
	SYNC BT	Press the <b>OK</b> button. This is a phone-dependent feature that allows you to stream music playing on your Bluetooth-enabled phone. If supported by your device, you can press seek to play the previous or next track.
	SYNC LINE IN (If Equipped)	Press the <b>OK</b> button to select and play music from your portable music player over your vehicle's speakers. <sup>2</sup>
MEDIA SETTIN	Choose to shuffle or repeat your music and select your Auto-play settings. Once you turn these selections on, they remain on until you turn them off. Press <b>SEEK</b> to play the previous or next track. <sup>3</sup>	
	SHUFFLE	Press the <b>OK</b> button to shuffle available media files in the current playlist. To shuffle all media tracks, you must select Play All in the play menu and then select Shuffle.
	REPEAT	Press the <b>OK</b> button to repeat any song.

Message	Action and Description
AUTOPLAY	Press the <b>OK</b> button to turn autoplay on to listen to music processed during indexing. Turn autoplay off to allow the indexing process to finish before the system plays any of your music. <sup>4</sup>
APPLICATIONS	Interact with SYNC-capable mobile applications on your smartphone.
SYS SETTINGS	Access available Bluetooth Device menu listings as well as Advanced menu listings.
EXIT MENU	Press <b>OK</b> to exit the media menu.

<sup>1</sup>The time required to complete this depends on the size of the media the system needs to index. If autoplay is on, you can listen to media processed during indexing. If autoplay is off, you cannot listen to music until the system finishes indexing media. SYNC is capable of indexing thousands of average size media and notifies you if it reaches the maximum indexing file size.

<sup>2</sup>If you have already connected a device to the USB port, you cannot access the line in feature. Some digital media players require both USB and line in ports to stream data and music separately.

<sup>3</sup>Some digital media players require both USB and line in ports to stream data and music separately.

<sup>4</sup>Indexing times can vary from device to device and with regard to the number of songs the system needs to process.

## Accessing Your Play Menu

This menu allows you to select and play your media by artist, album, genre, playlist, track, similar music or even to explore what is on your USB device.

Make sure that your device is plugged into the USB port and is turned on.

Press the **AUX** button, then the **Menu** button to enter the Media Menu.

### You can then scroll to select:

Message	Action and Description
PLAY MENU	Press the <b>OK</b> button.
If there are no media files to access, the display indicates there is no media. If there are media files, you have the following options:	
PLAY ALL	Press the <b>OK</b> button. The first track title appears in the display.

Message	Action and Description
	Play all indexed media (tracks) from your playing device in flat file mode, one at a time in numerical order.
ARTISTS	<p>Sort all indexed media by artist. Once selected, the system lists and then plays all artists and tracks alphabetically. If there are fewer than 255 indexed artists, the system lists them alphabetically in flat file mode. If there are more than 255, the system categorizes them alphabetically.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button. You can select to play all artists or any indexed artist.</li> <li>2. Scroll to choose the desired artist. Press the <b>OK</b> button.</li> </ol>
ALBUMS	<p>Sort all indexed media by albums. If there are fewer than 255 indexed albums, the system lists them alphabetically in flat file mode. If there are more than 255, the system categorizes them alphabetically.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button. You can enter the album menu and select from playing all albums or from any individual indexed album.</li> <li>2. Scroll to choose the desired album. Press the <b>OK</b> button.</li> </ol>
GENRES	<p>Sort indexed music by genre (category) type. SYNC lists the genres alphabetically in flat file mode. If there are more than 255, the system categorizes them alphabetically.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Scroll to select the desired genre. Press the <b>OK</b> button.</li> </ol>
PLAYLISTS	<p>Access your playlists from formats ASX, M3U, WPL or MTP. The system lists your playlists alphabetically in flat file mode. If there are more than 255, the system categorizes them alphabetically.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Scroll to select the desired playlist. Press the <b>OK</b> button.</li> </ol>
TRACKS	<p>Search for and play a specific indexed track. SYNC lists your tracks alphabetically in flat file mode. If there are more than 255, the system categorizes them alphabetically.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Scroll to select the desired track. Press the <b>OK</b> button.</li> </ol>

Message	Action and Description
EXPLORE USB	Explore all supported digital media on your media device connected to the USB port. You can only view media content which is compatible with SYNC; other files saved are not visible.  1. Press the <b>OK</b> button. 2. Scroll to explore indexed media on your flash drive.
SIMILARMUSIC	Play music similar to what is currently playing from the USB port. The system uses the metadata information of each song to compile a playlist for you.*  1. Press the <b>OK</b> button. 2. The system creates a new list of similar songs and begins playing. This feature does not include tracks with incomplete metadata information. Press the <b>OK</b> button.
RETURN	Exit the current menu.

\*With certain playing devices, if your metadata tags are not populated, the tracks are not available in voice recognition, play menu or similar music. However, if you place these tracks onto your playing device in "Mass Storage Device Mode", they are available in voice recognition, play menu browsing and similar music. The system places Unknown items into any unpopulated metadata tag.

## System Settings

System settings provide access to your Bluetooth Devices and Advanced menu features.

## Bluetooth Devices

The Bluetooth Devices menu allows you to enable, disable, add, connect and delete a Bluetooth device.

Press the **AUX** button, then the **Menu** button to enter the Media Menu.

### You can then scroll to:

Message	Action and Description
SYS SETTINGS	Press the <b>OK</b> button.
BT DEVICES	Press the <b>OK</b> button.

### You can then select one of the following:

ADD DEVICE	Pair more devices to the system.*
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Message	Action and Description
	<ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button. When find SYNC appears in the display, press the <b>OK</b> button again.</li> <li>2. Follow the directions in your phone's manual to put your phone into discovery mode. A six-digit PIN appears in the display.</li> <li>3. When prompted on your phone's six-digit display, enter the PIN.</li> </ol>
Connect BT	Connect a previously paired Bluetooth-enabled phone. <ol style="list-style-type: none"> <li>1. Press <b>OK</b> to select and view a list of devices.</li> <li>2. Scroll until the desired device is chosen and press <b>OK</b> to connect the device.</li> </ol>
BT ON/OFF	Turn the Bluetooth feature on and off.** <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button and scroll to toggle between on and off.</li> <li>2. Make a selection and press the <b>OK</b> button.</li> </ol>
DEL DEVICE	Delete a paired media device. <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button and scroll to select the device.</li> <li>2. Press the <b>OK</b> button to confirm.</li> </ol>
DELETE ALL	Delete all previously paired devices. <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Press the <b>OK</b> button to confirm.</li> </ol>
RETURN	Exit the current menu.

\*This is a speed-dependent feature. It is only available when your vehicle is traveling at 3 mph (5 km/h) or less.

\*\*Setting Bluetooth to off disconnects all Bluetooth devices and turns off all Bluetooth features.

## Advanced

The Advanced menu allows you to access and set prompts, languages, defaults and perform a master reset.

Press the **AUX** button, then the **Menu** button to enter the Media Menu.

**You can then scroll to:**

Message	Action and Description
SYS SETTINGS	Press the <b>OK</b> button.
ADVANCED	Press the <b>OK</b> button.

**You can then select one of the following:**

PROMPTS	<p>Have SYNC guide you by asking questions, helpful hints or ask you for a specific action.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button and scroll to toggle between on and off.</li> <li>2. Make a selection and press the <b>OK</b> button. SYNC takes you back to the Advanced menu.</li> </ol>
LANGUAGES	<p>Choose from the available languages. The displays and prompts are in the selected language.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button and scroll through the available languages.</li> <li>2. Press the <b>OK</b> button when the desired language appears in the display.</li> <li>3. If you change the language setting, the display indicates that the system is updating. When complete, SYNC takes you back to the Advanced menu.</li> </ol>
DEFAULTS	<p>Return to the factory default settings. This selection does not erase your indexed information, for example phonebook, call history, text messages and paired devices.</p> <ol style="list-style-type: none"> <li>1. Press the <b>OK</b> button.</li> <li>2. Press the <b>OK</b> button. When restore defaults appears in the display, press the <b>OK</b> button again to confirm.</li> </ol>
MASTER RESET	<p>Completely erase all information stored on SYNC. All phonebook, call history, text messages and all paired devices will be deleted and the system will return to the factory default settings.</p>
INSTALL APP	<p>Download available software applications through the USB port.</p>
RETURN	<p>Exit the current menu.</p>

## SYNC™ TROUBLESHOOTING

Your SYNC system is easy to use. However, should questions arise, see the tables below.

Use the 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). Visit [www.SYNCMyRide.com](http://www.SYNCMyRide.com), [www.SYNCMyRide.ca](http://www.SYNCMyRide.ca) or [www.syncmaroute.ca](http://www.syncmaroute.ca) for more information.

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. This may be a possible phone malfunction.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again. Try pushing your phonebook contacts to SYNC by using the Add Contacts feature. Use the SYNCmyphone feature available on the website.
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.	Try pushing your phonebook contacts to SYNC by using the Add Contacts feature. If the missing contacts are stored on your SIM card, try moving them to the device memory. Remove any pictures or special ring tones associated with the missing contact.

Phone issues		
Issue	Possible cause(s)	Possible solution(s)
		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.
I am having trouble connecting my phone to SYNC.	This is a phone-dependent feature. This may be a possible phone malfunction.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again. Try deleting your device from SYNC, deleting SYNC from your device and trying again. Check the security and auto accept and prompt always settings relative to the SYNC Bluetooth connection on your phone. Update your device's firmware. Turn off the Auto phonebook download setting.
Text messaging is not working on SYNC.	This is a phone-dependent feature. This may be a possible phone malfunction.	Go to the website to review your phone's compatibility. Try turning off the device, resetting the device or removing the device's battery, then trying again.

USB and media issues		
Issue	Possible cause(s)	Possible solution(s)
I am having trouble connecting my device.	This may be a possible device malfunction.	Try turning off the device, resetting the device, removing the device's battery, then trying again. Make sure you are using the manufacturer's cable. Make sure you insert the USB cable correctly into the device and the USB port. 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 copy-right 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.

<b>Vehicle Health Report and Services (Traffic, Directions and Information) issues</b>		
<b>Issue</b>	<b>Possible cause(s)</b>	<b>Possible solution(s)</b>
I received a text that I did not activate Vehicle Health Report.	You did not activate your account on the website. You may have the wrong VIN (vehicle identification number) listed.	This is a free feature, but you must first register online to use it. Make sure that your VIN is correctly listed in your account.
I am unable to retrieve the report on the website, or I receive a system error.	The preferred dealer information did not load correctly.	When you register your account, you must choose a preferred dealer. If it already lists a dealer, try selecting another dealer and logging out. Log back in, change it back to your preferred dealer, and retrieve the report.
I am unable to submit a report.	This could be due to your phone's compatibility. Bad signal strength. You did not register your phone correctly on the website.	Update your cellular number in your account on the website. Make sure you have full signal strength and that your Bluetooth volume level has been turned up. Make sure the currently connected phone is registered on your SYNCMyRide account. Try deleting your phone and performing a clean pairing.
I heard a commercial when I tried to use Traffic, Directions and Information.	You did not activate this phone for this service. Your phone has ID blocker active.	This is a free feature, but you must first register online to use it. Turn off ID blocker on your phone as the system recognizes you by your phone number. Make sure the currently connected phone is the same one that is registered on your SYNCMyRide account.

Voice command issues		
Issue	Possible cause(s)	Possible solution(s)
SYNC does not understand what I am saying.	You may be using the wrong voice commands. You may be speaking too soon or at the wrong time.	Review the phone voice commands and the media voice commands at the beginning of their respective sections. 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.
SYNC does not understand the name of a song or artist.	You may be using the wrong voice commands. You may be saying the name differently than the way you saved it. The system may not be reading the name the same way you are saying it.	Review the media voice commands at the beginning of the media section. 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. Make sure you are saying the complete title, such as "California remix featuring Jennifer Nettles". If the song titles are in all CAPS, you have to spell them. LOLA requires you to say "L-O-L-A". Do not use special characters in the title. The system does not recognize them.
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. You may be saying the name differently than the way you saved it.	Review the Phone voice commands at the beginning of the phone section.

Voice command issues		
Issue	Possible cause(s)	Possible solution(s)
	<p>The system may not be reading the name the same way you are saying it. Contacts in your phonebook may be very short and similar, or they may contain special characters. 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>

AppLink issues		
Issue	Possible cause(s)	Possible solution(s)
When I select "Find New Apps," SYNC does not find any applications.	An AppLink capable phone is not connected to SYNC.	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



AppLink issues		
Issue	Possible cause(s)	Possible solution(s)
		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." Don't forget to restart the app afterwards, then select "Find New Apps" on SYNC.

Applink issues		
Issue	Possible cause(s)	Possible solution(s)
		On an iPhone with iOS7+, to force close an app, double tap the home button then swipe up on the app to close it. Tab the home button again, then select the app again to restart it. After a few seconds, the app should then appear in SYNC's Mobile App's 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 OS. This bug may cause apps that were found the last time your phone connected to SYNC not to 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.

AppLink issues		
Issue	Possible cause(s)	Possible solution(s)
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.

# 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 10% 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, the United States and Mexico 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 228).

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.

## Genuine Ford and Motorcraft® Replacement Parts

Dealerships stock Ford, Motorcraft and Ford-authorized branded 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 Ford 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 is equipped with the Intelligent Oil-Life Monitor system, which displays a message 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).

# 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 180).

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.

Ford Motor Company has recommended maintenance intervals for various parts and component systems based upon engineering testing. Ford Motor Company relies 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 genuine Ford, Motorcraft or Ford-authorized re-manufactured replacement parts engineered for your vehicle.

## Additives and Chemicals

This owner's manual and the Ford 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 a Ford-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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Check Every Month
Engine oil level.
Function of all interior and exterior lights.
Tires (including spare) for wear and proper pressure.
Windshield washer fluid level.
Fuel and water separator. Drain if necessary (or if indicated by the information display).
Holes and slots in the tail pipe to make sure they are functional and clear of debris.

Check Every Six Months
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.
Safety belts and seat latches for wear and function.
Safety warning lamps (brake, ABS, airbag and safety belt) 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 is equipped with an Intelligent Oil-Life Monitor that determines when you should change the engine oil based on how your vehicle is used. 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

When to Expect the OIL CHANGE REQUIRED Message	
Interval	Vehicle Use and Example
7,500–10,000 mi (12,000–16,000 km)	Normal
	Normal commuting with highway driving No, or moderate, load or towing Flat to moderately hilly roads No extended idling
5,000–7,500 mi (8,000–12,000 km)	Severe
	Moderate to heavy load or towing Mountainous or off-road conditions Extended idling Extended hot or cold operation
3,000–5,000 mi (5,000–8,000 km)	Extreme
	Maximum load or towing Extreme hot or cold operation

## Normal Maintenance Intervals

At Every Oil Change Interval as Indicated by the Information Display <sup>1</sup>
Change engine oil and filter. <sup>2</sup>
Rotate the tires.
Perform a multi-point inspection (recommended).
Inspect the automatic transmission fluid level. Consult your dealer for requirements.
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 rear axle and U-joints (all wheel drive only).
Inspect the half-shaft boots.
Inspect the steering linkage, ball joints, suspension, tire-rod ends, driveshaft and U-joints.

# Scheduled Maintenance

## At Every Oil Change Interval as Indicated by the Information Display<sup>1</sup>

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 10,000 mi (16,000 km) between service intervals.

<sup>2</sup> Reset the Intelligent Oil-Life Monitor after engine oil and filter changes. See **Oil Change Indicator Reset** (page 180).

## Other Maintenance Items<sup>1</sup>

Every 20,000 mi  
(32,000 km)

Replace cabin air filter.<sup>2</sup>

Every 30,000 mi  
(48,000 km)

Replace engine air filter.

Change automatic transmission fluid.

At 100,000 mi  
(160,000 km)

Change engine coolant.<sup>3</sup>

Every 100,000 mi  
(160,000 km)

Replace spark plugs.

Inspect accessory drive belt(s).<sup>4</sup>

Every 150,000 mi  
(240,000 km)

Replace accessory drive belt(s).<sup>5</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> Should be performed by an authorized dealer.

<sup>3</sup> Initial replacement at six years or 100,000 mi (160,000 km), then every three years or 50,000 mi (80,000 km).

<sup>4</sup> After initial inspection, inspect every other oil change until replaced.

<sup>5</sup> If not replaced within the last 100,000 mi (160,000 km).

# Scheduled Maintenance

## 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 U-joints.
30,000 mi (48,000 km)	Change automatic transmission fluid.
60,000 mi (96,000 km)	Replace spark plugs.

### Extensive Idling or Low-speed Driving for Long Distances, as in Heavy Commercial Use

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.
30,000 mi (48,000 km)	Change automatic transmission fluid.
60,000 mi (96,000 km)	Replace spark plugs.

# Scheduled Maintenance

Extended Hot and Cold Climate Operation	
5,000 mi (8,000 km)	Change engine oil and filter. <sup>1</sup>

<sup>1</sup>Hot Climates only

Operating in Dusty or Sandy Conditions (Such as Unpaved or Dusty Roads)	
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.
30,000 mi (48,000 km)	Change automatic transmission fluid.

<sup>1</sup>Reset your Intelligent Oil-Life Monitor after engine oil and filter changes. See **Oil Change Indicator Reset** (page 180).

Exclusive Use of E85 (Flex Fuel Vehicles Only)	
Every oil change	If ran exclusively on E85, fill the fuel tank full with regular unleaded fuel.

## Engine Idle Hour Meter

Your vehicle may be fitted with 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 when 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 experience long periods of idling, during which engine oil continues to break down but distance is not accumulated on the odometer.

### Engine idle hour meter calculation:

Idle hours x 33 = miles (kilometers) equivalency

# Scheduled Maintenance

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Miles (kilometers) driven + miles (kilometers) equivalency = oil change interval

Example: When the odometer has accumulated 3,000 mi (4,800 km) and the idle meter shows 61 hours, a 5,000 mi (8,000 km) oil change interval has been reached: 3,000 mi (4,800 km) + (61 idle hours x 33 miles [53 km]/idle hour) = 5,015 mi (8,067 km).

## Exceptions

There are several exceptions to the Normal Schedule:

**Axle and PTU maintenance:** The Power Transfer Unit (PTU) and rear axle (all wheel drive only) in your vehicle does not require any normal scheduled maintenance. Vehicles are electronically monitored and notify the driver required service by displaying a message in the information display. The PTU lube will be more likely to require a fluid change if the vehicle has experienced extended periods of extreme/severe duty cycle driving. Changing or checking the PTU lubricant is not necessary unless the unit has been submerged in water, shows signs of leakage or a message indicating required service is displayed. 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. Ford Motor Company, however, urges 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.

## SCHEDULED MAINTENANCE RECORD

## Scheduled Maintenance

<input type="radio"/> Repair Order #:	<div>Dealer stamp</div>
<input type="radio"/> Distance:	
<input type="radio"/> Engine hours (optional):	
<input type="radio"/> Multi-point inspection (recommended): <input type="checkbox"/>	
<input type="radio"/> Signature:	

<input type="radio"/> Repair Order #:	<div>Dealer stamp</div>
<input type="radio"/> Distance:	
<input type="radio"/> Engine hours (optional):	
<input type="radio"/> Multi-point inspection (recommended): <input type="checkbox"/>	
<input type="radio"/> Signature:	

## Scheduled Maintenance

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<input type="radio"/> Multi-point inspection (recommended): <input type="checkbox"/>	
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## Scheduled Maintenance

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<input type="radio"/> Engine hours (optional):	
<input type="radio"/> Multi-point inspection (recommended): <input type="checkbox"/>	
<input type="radio"/> Signature:	



# 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.

### Police Engine Idle feature

Authorized personnel must use a diagnostic scan tool to decommission Police Engine Idle.

### Silent Mode

Authorized personnel must use a diagnostic scan tool to decommission Silent Mode.

## Appendices

### ELECTROMAGNETIC COMPATIBILITY



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the seatbacks (of the front seats), or in front seat 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 original vehicle wiring, fuel pipes and brake pipes.

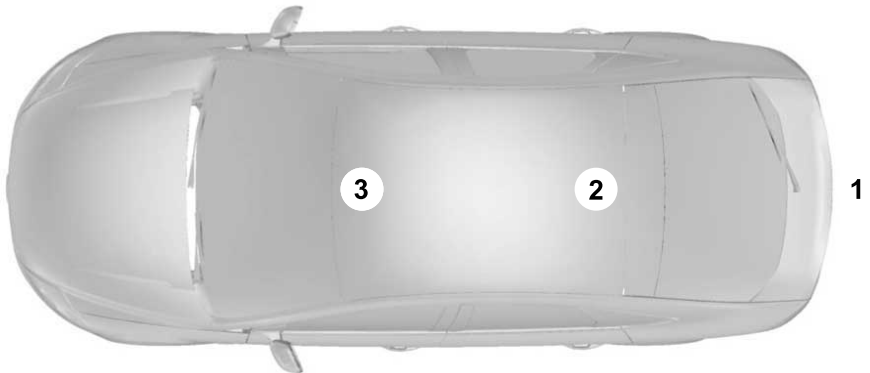


**WARNING:** Keep antenna and power cables at least 4 in (10 cm) from any electronic modules and airbags.

**Note:** We test and certify your vehicle to meet electromagnetic compatibility legislation (UNECE Regulation 10 or other applicable local requirements). 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.

**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 table. We do not provide special provisions or conditions for installations or use.

#### Car

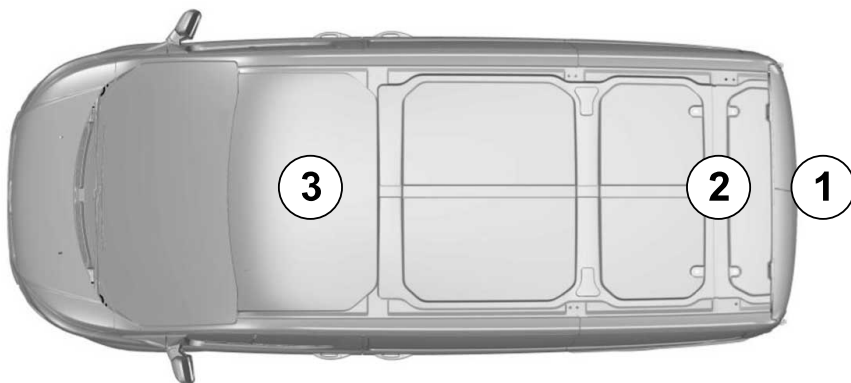


E239120

# Appendices

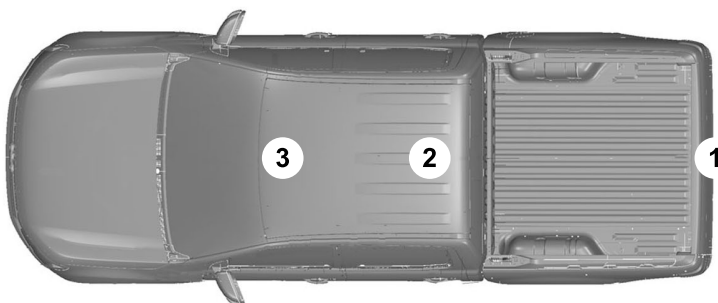
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## Van



E239122

## Truck



E239121

## Appendices

Frequency Band MHz	Maximum output power Watt (Peak RMS)	Antenna Positions
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

**Note:** After the installation of radio frequency transmitters, check for disturbances from and to all electrical equipment in your vehicle, both in the standby and transmit modes.

Check all electrical equipment:

- With the ignition ON.
- With the engine running.
- During a road test at various speeds.

Check that electromagnetic fields generated inside your vehicle cabin by the transmitter installed do not exceed applicable human exposure requirements.

## 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.

# Appendices

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**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.

- **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.

## Appendices

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- **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.
- **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.

## Appendices

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### **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.

**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.

# Appendices

## **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 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.



# Appendices

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## 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.

## 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

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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.

## 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

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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

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.

## **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.

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## 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)**

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

# Appendices

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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.

- TELENV EXPRESSLY DISCLAIMS AND EXCLUDES ALL WARRANTIES IN CONNECTION WITH THE TELENV 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 TELENV 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 TELENV 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 TELENV SOFTWARE, EVEN IF TELENV HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY

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 TELENV AND OF ALL OF TELENV'S SUPPLIERS SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE TELENV 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

# Appendices

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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

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.



# Appendices

## 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.

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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.



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**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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**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

# Appendices

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:

## 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  
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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:

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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.

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,

# Appendices

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.

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
Argentina	IGN "INSTITUTO GEOGRAFICO NACIONAL ARGENTINO"
Ecuador	"INSTITUTO GEOGRAFICO MILITAR DEL ECUADOR AUTORIZACION N° IGM-2011-01- PCO-01 DEL 25 DE ENERO DE 2011" "source: © IGN 2009 - BD TOPO ®"
Guadeloupe, French Guiana and Martinique Mexico	"Fuente: INEGI (Instituto Nacional de Estadística y Geografía)"

## IV. Middle East Territory

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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.

## 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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is conditioned on Client's obtaining prior written consent from Kartografie a.s.; (c) such license for selling or distributing with respect to Data for the Territory of Switzerland is conditioned on Client's obtaining a permit from Bundesamt für Landestopografie of Switzerland; (d) Client is restricted from using Data for the Territory of France to create paper maps with a scale between 1:5,000 and 1:250,000; and (e) Client is restricted from using any Data to create, sell or distribute paper maps that are the same or substantially similar, in terms of data content and specific use of color, symbols and scale, to paper maps published by the European national mapping agencies, including without limitation, Landervermessungämter of Germany, Topografische Dienst of the Netherlands, Nationaal Geografisch Instituut of Belgium, Bundesamt für Landestopografie of Switzerland, Bundesamt für Eich-und Vermessungswesen of Austria, and the National Land Survey of Sweden.

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.

D. 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(ies) Notice

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Croatia Cyprus, Estonia, Latvia, Lithuania, Moldova, Poland, Slovenia and/or Ukraine	"© EuroGeographics"
France	"source: © IGN 2009 – BD TOPO ®"
Germany	"Die Grundlagendaten wurden mit Genehmigung der zuständigen Behörden entnommen"
Great Britain	"Contains Ordnance Survey data © Crown copyright and database right 2010 Contains Royal Mail data © Royal Mail copyright and database right 2010"
Greece	"Copyright Geomatics Ltd."
Hungary	"Copyright © 2003; Top-Map Ltd."
Italy	"La Banca Dati Italiana è stata prodotta usando quale riferimento anche cartografia numerica ed al tratto prodotta e fornita dalla Regione Toscana."
Norway	"Copyright © 2000; Norwegian Mapping Authority"
Portugal	"Source: IgeoE – Portugal"

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Spain	"Información geográfica propiedad del CNIG"
Sweden	"Based upon electronic data © National Land Survey Sweden."
Switzerland	"Topografische Grundlage: © Bundesamt für Landestopographie."

E. Respective Country Distribution. Client acknowledges that HERE has not received approvals to distribute map data for the following countries in such respective countries: Albania, Belarus, Kyrgyzstan, Moldova and Uzbekistan. HERE may update such list from time to time. The license rights granted to Client under this TL with respect to the Data for such countries are contingent upon Client's compliance with all applicable laws and regulations, including, without limitation, any required licenses or approvals to distribute the Application incorporating such Data in such respective countries.

## VI. Australia 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:

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Product incorporates data which is © 20XX Telstra Corporation Limited, GM Holden Limited, Intelomatics Australia Pty Ltd and Continental Pty Ltd.

B. Third Party Notices for Australia. In addition to the foregoing, the End-User Terms for any Application containing RDS-TMC Traffic Codes for Australia shall contain the following notice: "Product incorporates traffic location codes which is © 20XX Telstra Corporation Limited and its licensors."

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(ii) END USER AGREES TO INDEMNIFY AND HOLD HARMLESS THE UNDERLYING WIRELESS SERVICE CARRIER AND ITS OFFICERS, EMPLOYEES, AND AGENTS AGAINST ANY AND ALL CLAIMS, INCLUDING WITHOUT LIMITATION CLAIMS FOR LIBEL, SLANDER, OR ANY PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, ARISING IN ANY WAY, DIRECTLY OR INDIRECTLY, IN CONNECTION WITH THIS AGREEMENT OR THE USE, FAILURE TO USE, OR INABILITY TO USE THE DEVICE EXCEPT WHERE THE CLAIMS RESULT FROM THE UNDERLYING CARRIER'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT. THIS INDEMNITY WILL SURVIVE THE TERMINATION OF THE AGREEMENT.

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### **VII. China Territory**

#### ***Personal Use Only***

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view it, and (ii) save it, provided that you do not remove any copyright notices that appear and do not modify the Data in any way. You agree not to otherwise reproduce, copy, modify, decompile, disassemble 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**

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## **Limited Warranty**

NAV2 warrants that (a) the Data will perform substantially in accordance with the accompanying written materials for a period of ninety (90) days from the date of receipt, and (b) any support services provided by NAV2 shall be substantially as described in applicable written materials provided to you by NAV2, and NAV2's support engineers will make commercially reasonable efforts to solve any problem issues.

## ***rigCustomer Remedies***

NAV2 and its suppliers' entire liability and your exclusive remedy shall be, at NAV2's sole discretion, either (a) return of the price paid, if any, or (b) repair or replacement of the Data that do not meet NAV2's Limited Warranty and that are returned to NAV2 with a copy of your receipt. This Limited Warranty is void if failure of the Data has resulted from accident, abuse, or misapplication. Any replacement Data will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer. Neither these remedies nor any product support services offered by NAV2 are available without proof of purchase from an authorized international source.

## ***No Other Warranty:***

EXCEPT FOR THE LIMITED WARRANTY SET FORTH ABOVE AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, NAV2 AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OWNERSHIP OR NON-INFRINGEMENT. Certain warranty exclusions may not be permitted under applicable law, so to that extent the above exclusion may not apply to you.

## ***Limited Liability:***

TO THE EXTENT PERMITTED BY APPLICABLE LAW, NAV2 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

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## **Export Control**

You agree not to export to anywhere any part of the Data provided to you or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations.

## **IP Protection**

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## **Entire Agreement**

These terms and conditions constitute the entire agreement between NAV2 (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 People's Republic of China, 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. Any dispute arising from or in connection with the Data provided to you hereunder shall be submitted to the Shanghai International Economic and Trade Arbitration Commission for arbitration.

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## Radio Frequency Statement

FCC ID: ACJ-SYNCG3-L

IC: 216B-SYNCG3-L

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. 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.



**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.

## Taiwan Territory

Note: In accordance with the management approach of low-power radio wave radiation motors:

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.

Article 14: The usage of low-power radio-frequency motors must not affect aviation safety and interfere with legal telecommunications. Should interference be detected, immediately stop using the device and only resume usage after ensuring that there is no longer any interference. For the legal telecommunication and wireless telecommunication of the telco, the low-power radio frequency motor must be able to tolerate legal limits of interference from telecommunication, industrial, scientific and radio wave equipment.

## SUNA TRAFFIC CHANNEL – TERMS AND CONDITIONS

By activating, using and/or accessing the SUNA Traffic Channel, SUNA Predictive or other content or material provided by Intelematics (together, **SUNA Products and/or Services**), you must accept certain terms and conditions. The following is a brief summary of the terms and conditions that apply to you. To view the full terms and conditions relevant to your use of the SUNA Products and/or Services, please consult:

### Website

[www.sunatrafic.com.au/termsandconditions/](http://www.sunatrafic.com.au/termsandconditions/)

## 1. Acceptance

# Appendices

By using SUNA Products and/or Services, you will be deemed to have accepted and agreed to be bound by the terms and conditions fully detailed at:

Website
<a href="http://www.sunattraffic.com.au/termsandconditions/">www.sunattraffic.com.au/termsandconditions/</a>

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SUNA Products and/or Services are intended as an aid to personal motoring and travel planning, and do not provide comprehensive or accurate information on all occasions. On occasions, you may experience additional delay as a result of using SUNA Products and/or Services. You acknowledge that it is not intended, or suitable, for use in applications where time of arrival or driving directions may impact the safety of the public or yourself.

## 4. Use of SUNA Products and Services while driving

You, and other authorised drivers of the vehicle in which SUNA Products and/or Services are available or installed and active, remain at all times responsible for observing all relevant laws and codes of safe driving. In particular, you agree to only actively operate SUNA Products and/or Services when the Vehicle is at a complete stop and it is safe to do so.

## 5. Service Continuity and Reception of the SUNA Traffic Channel

We will use reasonable endeavours to provide the SUNA Traffic Channel 24 hours a day, 365 days a year. The SUNA Traffic Channel may occasionally be unavailable for technical reasons or for planned maintenance. We will try to perform maintenance at times when congestion is light. We reserve the right to withdraw SUNA Products and/or Services at any time.

Also, we cannot assure the uninterrupted reception of the SUNA Traffic Channel RDS-TMC signal at any particular location.

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## 7. Please Note

Great care has been taken in preparing this manual. Constant product development may mean that some information is not entirely up-to-date. The information in this document is subject to change without notice.

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## TYPE APPROVALS

### Radio Frequency Certifications for Tyre Pressure Monitoring Sensor(s)

#### Argentina



E207816

#### Brazil

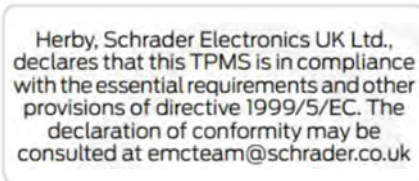


E197509

#### Canada

IC: 850K-11545917

#### European Union EU



E207818

#### Ghana

NCA APPROVED: 3R88M14030

E253824

#### Jordan

Kingdom of Jordan Type approval for tyre pressre sensor  
Model : AG2SZ4  
Manufacturer:Schrader Electronics Ltd  
Type Approval Number:TRC/LPD/2014/56  
Equipment Type: Low Power Device (LPD)

E253823

#### Malaysia



E253822

#### Mexico

IFT: RLVSCMR15-1238

E253812

IFT: RLVSCMR15-1249

E253813

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## Moldova



1024

E197811

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR9098  
ANRT 2014  
Date d'agrément: 14/03/2014

E207821

## Oman

OMAN TRA

TA-R/1752/14

D090258

E253817

## Philippines



Type Approved

NTC

No:ESD-1408639C

E198001

## Russia



E253816

## Serbia



101114

E197844

## Singapore

Complies with  
IDA Standards  
DA 105282

E253820

## South Africa



TA-2014/064

Approved

E198002

## South Korea



E253819

MSIP-CRM-SRD-AG2SZ4

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## Taiwan



CCAM14LP0090T3

E203679

## Ukraine



E253818

**109**

## United Arab Emirates

TRA  
REGISTERED NO:EROI30238/14  
DEALER NO:DA0047074/10

E207817

## United States of America

FCC ID: OUC11545917

## Radio Frequency Certifications for Mid Range Radar

### Argentina

MMR ID: C-20001

E269659

### Ghana

MRR ID:  
NCA approved: 0R2-9H-7E1-x4D.

E269662

### Jordan

MRR:  
Type Approval No.: TRC/LPD/2017/158  
Equipment Type: Low Power Device (LPD) ID: C-20001

E269660



# Appendices

## Morocco

MRR ID:  
No. D'Agrement: MR 13639 ANRT 2017 (28 March 2017)

E269661

## Radio Frequency Certifications for Passive Anti-Theft System

### Argentina

**CNC** COMISIÓN NACIONAL  
DE COMUNICACIONES

CNC ID: H-13170

E274065

## South Africa

MRR ID:  
TA-2017/370

E269664

### Brazil

**ANATEL**

MT-2821/2014

E269675

## United Arab Emirates

MRR ID:  
ER54071/17, Dealer License Number (WAC Dealer License Number: DA37380/15)

E269663

### Canada

IC: 850K-11545917

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## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément: 243/MCPT/SC/16  
Date d'agrément: 23/05/2016

E274068

## Jordan

Type approval No.: TRC/LPD/2013/235  
Equipment Type: Low Power Device (LPD)

E269666

## Ghana

NCA PRODUCT IDENTIFIER: NCA/TA/16/22

E269674

## Malaysia



E269673

## Jamaica

This product has been Type Approved by Jamaica: SMA- OUC11545917

E274067

## Morocco

N° D'AGRÉMENT: MR 8922 ANRT 2014

E269670

# Appendices

## Paraguay



E274066

## Singapore

Complies with IDA standards  
Dealer License Number: N3226-13

E269676

## Pakistan



E275754

## South Africa



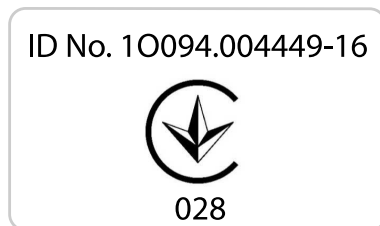
E269667

## Serbia



E269672

## Ukraine



E269671

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## United Arab Emirates

TRA  
REGISTERED No. ER49115/16

E269668

## United States of America

FCC ID: OUC11545917

## Vietnam

So.No: A0364120416AF04A2



E269677

## Radio Frequency Certifications for Radio Transceiver Module

### Canada

IC: 3659A-F03AM315RX

IC: 3659A-F04AM902TRX

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément: 247/MCPT/SC/16  
Date d'agrément: 23/05/2016

E272192

## Jamaica

This product has been Type Approved by Jamaica:  
SMA – F03-AM315RX

E272193

## Jordan

Type approval No.: TRC/LPD/2013/233  
Equipment Type: Low Power Device (LPD)

E272194

# Appendices

## Morocco

N° D'AGRÉMENT: MR 12432 ANRT 2016

E269683

## Serbia



И011 16

E269681

## Pakistan



TAC NO: 14.1008/2015

E269684

## South Africa

TA-2013/1618  
APPROVED



E269685

## Paraguay



NR: 2012-11-1-0189

E272195

## Ukraine



UA.TR.028

E269682

# Appendices

## United Arab Emirates

TRA REGISTERED No. ER46324/16  
DEALER No.: DA37380/15

E272196

## United States of America

FCC ID: LTQF03AM315RX

FCC ID: LTQF04AM902TRX

## Radio Frequency Certifications for Blind Spot Information System

### Canada

RSS-310 compliant, per FCC Test report  
no.: 1-8707/14-01-03

### Ghana

NCA PRODUCT IDENTIFIER: 3R8-8M-7DF-231

E269695

## Malaysia



E269697

## South Africa

TA-2015/444  
APPROVED



E269696

## United Arab Emirates

TRA  
REGISTERED No. ER39534/15  
DEALER No.: DA37380/15

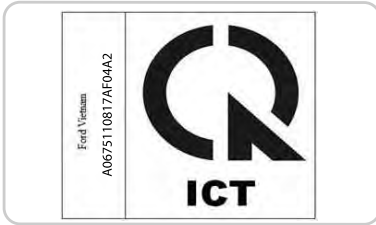
E269694

# Appendices

## United States of America

FCC ID: OAYSRR3B

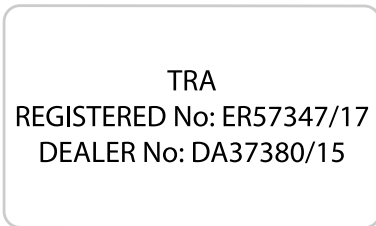
## Vietnam



E269693

## Radio Frequency Certifications for Wireless Charging

## United Arab Emirates



E272903

## South Korea



E273475

## Radio Frequency Certifications for SYNC 3

## Brazil



E252722



E282218

## Canada

IC: 216B-FG185SG32MH

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## **United States of America**

FCC ID: ACJ-FG-185-SG32MH

## **Radio Frequency Certifications for Cruise Control Module**

### **Canada**

IC: 3432A-0065TR

### **United States of America**

FCC ID: L2C0065TR

## **Radio Frequency Certifications for Body Control Module**

### **Canada**

IC: 7812A-A2C738448

Model # : M : A2C750526

Model # : M : A2C750561

### **United States of America**

FCC ID: M3NA2C738448

Model # : M : A2C750526

Model # : M : A2C750561

## **Radio Frequency Certification for Keys and Remote Controls**

### **Canada**

FCC ID : M3N-A2C931423

IC : 7812A-A2C931423

FCC ID : M3N-A2C931426

IC: 7812A-A2C931426

FCC ID : N5F-A08TAA

IC: 3248A-A08TAA

FCC ID : N5F-A08TDA

IC: 3248A-A08TDA

### **United States of America**

FCC ID : M3N-A2C931423

FCC ID : M3N-A2C931426

FCC ID : N5F-A08TAA

FCC ID : N5F-A08TDA

## **Radio Frequency Statement for Audio Unit**

### **Canada**

IC: 3043A-UP375AHU

### **United States**

FCC ID: NT8-16UP375AHU





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