

2016 **TRANSIT** Owner's Manual



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2016 **TRANSIT** Owner's Manual

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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 handheld 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 that are not on your vehicle.*

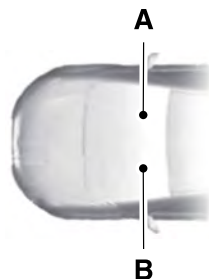
Note: *Some of the illustrations in this manual may show features as used in different models, so they may appear differently to you on your vehicle.*

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 the vehicle.*

Note: *Either Ford Motor Company or an authorized Ford dealer may have originally sold this incomplete vehicle to a vehicle modifier who upfitted it. As a result, some of the options and features on this vehicle may differ from what we describe in this manual.*

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.



Safety alert



See Owner's Manual



Air conditioning system



Anti-lock braking system

Introduction



Avoid smoking, flames or sparks



Engine oil



Battery



Explosive gas



Battery acid



Fan warning



Brake fluid - non petroleum based



Fasten seatbelt



Brake system



Front airbag



Cabin air filter



Front fog lamps



Check fuel cap



Fuel pump reset



Child safety door lock or unlock



Fuse compartment



Child seat lower anchor



Hazard warning flashers



Child seat tether anchor



Heated rear window



Cruise control



Heated windshield



Do not open when hot



Interior luggage compartment release



Engine air filter



Jack



Engine coolant



Keep out of reach of children



Engine coolant temperature



Lighting control

Introduction



Low tire pressure warning



Maintain correct fluid level



Note operating instructions



Panic alarm



Parking aid



Parking brake



Power steering fluid



Power windows front/rear



Power window lockout



Service engine soon



Side airbag



Shield the eyes



Stability control



Windshield wash and wipe

DATA RECORDING

A large number of electronic components of your vehicle contain data storage modules temporarily or permanently storing technical data about the condition of the vehicle, events and malfunctions.

In general, this technical information documents the condition of parts, modules, systems or the environment:

- Operating conditions of system components (e.g. filling levels).
- Status messages of the vehicle and its individual components (e.g. number of wheel revolutions/rotational speed, deceleration, lateral acceleration).
- Malfunctions and defects in important system components (e.g. lighting and brake system).
- Vehicle reactions in particular driving situations (e.g. inflation of an airbag, activation of the stability regulation system).
- Environmental conditions (e.g. temperature).

These data are exclusively technical and help identification and correction of malfunctions as well as optimisation of vehicle functions. Motion profiles indicating travelled routes cannot be created with these data.

If services are used (e.g. repair works, service processes, warranty cases, quality assurance), employees of the service network (including manufacturers) are able to read out this technical information from the event and malfunction data storage modules using special diagnostic devices. If required, you will receive further information. After a malfunction has been corrected, these data are deleted from the malfunction storage module or they are constantly overwritten.

Introduction

When using the vehicle, situations may occur in which these technical data related to other information (accident report, damages on the vehicle, witness statements, etc.) may be associated with a specific person - possibly, with the assistance of an expert.

Additional functions contractually agreed upon with the client (e.g. vehicle location in emergency cases) allow the transmission of particular vehicle data from the vehicle.

CALIFORNIA PROPOSITION 65

WARNINGS



Some constituents of engine exhaust, certain vehicle components, certain fluids contained in vehicles and certain products of component wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



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

PERCHLORATE

Certain components in your vehicle such as airbag modules, safety belt 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

www.dtsc.ca.gov/hazardouswaste/perchlorate

FORD CREDIT

(U.S. 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.

For your convenience we offer a number of ways to contact us, as well as to help manage your account.

Phone: 1-800-727-7000

For more information regarding Ford Credit, as well as to access Account Manager, please go to www.fordcredit.com.

REPLACEMENT PARTS RECOMMENDATION

Your vehicle has been built 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.

Introduction

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 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. Damage caused to your vehicle as a result of the failure of non-Ford parts may not be covered by the Ford Warranty. For additional information, refer to the terms and conditions of the Ford Warranty.

SPECIAL NOTICES

New Vehicle Limited Warranty

For a detailed description of what is covered and what is not covered by your vehicle's New Vehicle Limited Warranty, refer to the Warranty 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.

WARNINGS



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.



Front seat mounted rear-facing child or infant seats should NEVER be placed in front of an active passenger airbag.

On-board Diagnostics (OBD-II)

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.

Notice to Owners of Pickup Trucks and Utility Type Vehicles

WARNING



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

Introduction

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

Using Your Vehicle With a Snowplow

Do not use this vehicle for snowplowing.

Your vehicle is not equipped with a snowplowing package.

Using Your Vehicle as an Ambulance

If your light truck is equipped with the Ford Ambulance Preparation Package, it may be utilized as an ambulance. Ford urges ambulance manufacturers to follow the recommendations of the Ford Incomplete Vehicle Manual, Ford Truck Body Builder's Layout Book and the Qualified Vehicle Modifiers (QVM) Guidelines as well as pertinent supplements.

For additional information, please contact the Truck Body Builders Advisory Service:

Web Address
www.fleet.ford.com/truckbbas/ContactUs

You can also call us at
1-877-840-4338.

Other Vehicle Modifications

If converting or modifying your vehicle from production specification, refer to the Body and Equipment Mounting Manual by visiting the website:

Web Address
www.etis.ford.com/fordservice .

MOBILE COMMUNICATIONS EQUIPMENT

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.

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.

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 must 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.

Child Safety

GENERAL INFORMATION

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

WARNINGS



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.



All children are shaped differently. The recommendations for safety restraints are based on probable child height, age and weight thresholds from National Highway Traffic Safety Administration and other safety organizations, or are the minimum requirements of law. Ford recommends checking with a NHTSA Certified Child Passenger Safety Technician (CPST) and consult your pediatrician to make sure your child seat is appropriate for your child, and

WARNINGS

is compatible with and properly installed in your vehicle. To locate a child seat fitting station and CPST, contact the NHTSA toll free at 1-888-327-4236 or go to <http://www.nhtsa.dot.gov>. In Canada, check with your local St. John Ambulance office for referral to a CPST or for further information, contact your provincial ministry of transportation, locate your local St. John Ambulance office by searching for St. John Ambulance on the internet, or Transport Canada at 1-800-333-0371 (<http://www.tc.gc.ca>). Failure to properly restrain children in safety seats made especially for their height, age, and weight may result in an increased risk of serious injury or death to your child.



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.

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 safety belt having the lap belt snug and low across the hips, shoulder belt centered across the shoulder and chest, and seat back 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 pounds (36 kilograms). 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.

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 pounds (18 kilograms) or less (generally age four or younger).

Using Lap and Shoulder Belts

WARNINGS



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



Airbags can kill or injure a child in a child seat. Children 12 and under should be correctly restrained in the rear seat whenever possible.



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

When installing a child safety seat with combination lap and shoulder belts:

- Use the correct safety belt buckle for that seating position.
- Insert the belt tongue into the correct buckle until you hear a distinct click 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 seat and the release button, to prevent accidental unbuckling.

- Place the vehicle seat upon which the child seat will be installed in the upright position.
- Put the safety belt in the automatic locking mode. See Step 5. Your vehicle does not require the use of a locking clip.

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

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



E142528

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



E142529

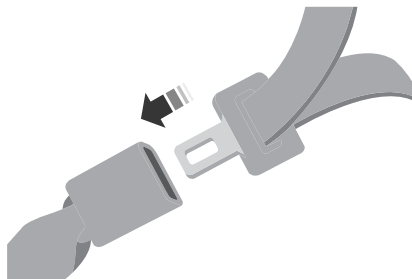
Child Safety

2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.



E142530

3. While holding the shoulder and lap belt portions together, route the tongue through the child seat according to the child seat manufacturer's instructions. Be sure the belt webbing is not twisted.



E142531

4. Insert the belt tongue into the correct buckle (the buckle closest to the direction the tongue is coming from) for that seating position until you hear a distinct click 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 all of the belt is pulled out.

Note: The automatic locking mode is available on the front passenger and rear seats.

6. Allow the belt to retract to remove slack. The belt will click as it retracts to indicate it is in the automatic locking mode.
7. Try to pull the belt out of the retractor to make sure the retractor is in the automatic locking mode (you should not be able to pull more belt out). If the retractor is not locked, unbuckle the belt and repeat Steps 5 and 6.



E142533

Child Safety

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 correct snugness of the child seat to your vehicle. Sometimes, a slight lean toward the buckle will additionally help to remove remaining slack from the belt.
9. Attach the tether strap (if the child seat is equipped).



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 inch (2.5 centimeters) of movement for correct installation.

Ford recommends checking with a NHTSA Certified Child Passenger Safety Technician to make certain the child restraint is correctly installed. In Canada, check with your local St. John Ambulance office for referral to a Certified Passenger Seat Technician.

Using Lower Anchors and Tethers for Children (LATCH)

WARNINGS



Never attach two child safety seats to the same anchor. In a crash, one anchor may not be strong enough to hold two child safety seat attachments and may break, causing serious injury or death.



Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain safety belt buckle assemblies or LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, occupants should only use seating positions where they are able to be correctly restrained.

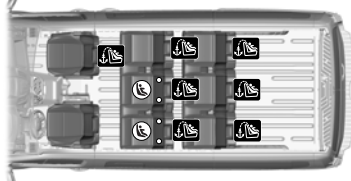
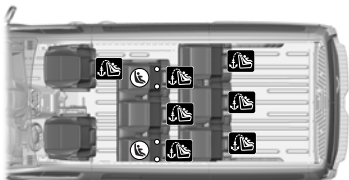
The LATCH system is composed of three vehicle anchor points: two lower anchors located where seat back and seat cushion meet (called the seat bight) and one top tether anchor located behind that seating position.

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 safety belts to attach the child seat, however the safety belt can still be used to attach the child seat. For forward-facing child seats, the top tether strap must also be attached to the correct top tether anchor, if a top tether strap has been provided with your child seat.

Child Safety



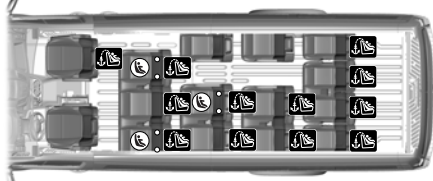
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E178552



E178553

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

Child Safety



E177639

The LATCH anchors are located at the rear section of the rear seat between the cushion and seat back above the symbols as shown. Follow the child seat manufacturer's instructions to correctly install a child seat with LATCH attachments. Follow the instructions on attaching child safety seats with tether straps.

Attach LATCH lower attachments of the child seat 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 inches (28 centimeters) center to center. Do not use LATCH lower anchors for the center seating position unless the child seat manufacturer's instructions permit and specify using anchors spaced at least as far apart as those in your vehicle.

Do not attach a child seat to any lower anchor if an adjacent child seat is attached to that anchor.

Each time you use the safety seat, check that the seat is correctly attached to the lower anchors and tether anchor, if applicable. Tug the child seat 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 correct installation.

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

Combining Safety Belt and LATCH Lower Anchors for Attaching Child Safety Seats

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

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 seat 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 the child safety seat has been installed using either the safety belt, the lower anchors of the LATCH system, or both, you can attach the top tether strap.

Child Safety

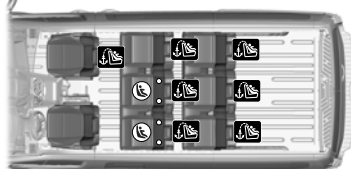
The tether strap anchors in your vehicle are in the following positions (shown from top view):



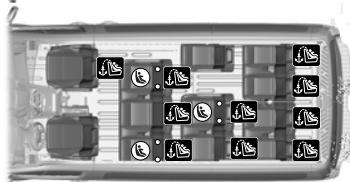
E184881



E178551



E178552



E178553



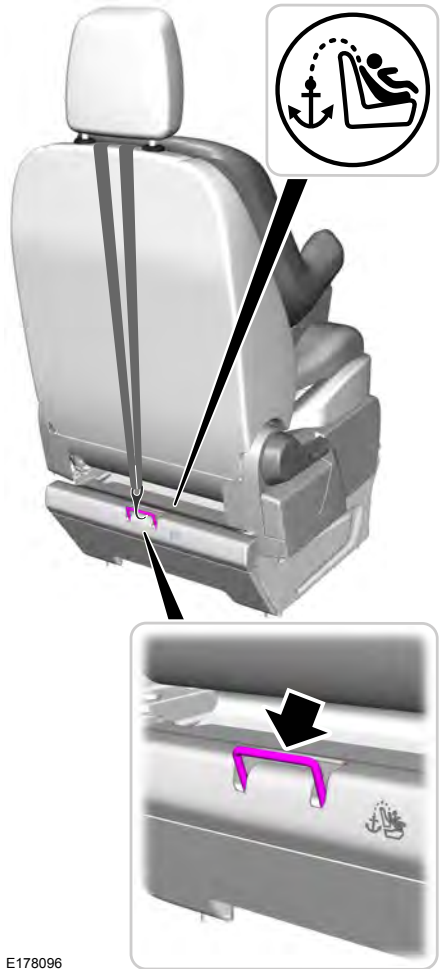
Perform the following steps to install a child safety seat with tether anchors:

Note: If you install a child seat with rigid LATCH attachments, do not tighten the tether strap enough to lift the child seat 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 seat. Keeping the child seat just touching your vehicle seat gives the best protection in a severe crash.

Child Safety

Front Passenger Seating Position

1. Adjust the front passenger seat fully forward.
2. Route the child safety seat tether strap over the back of the seat, under the head restraint and between the head restraint posts.



E178096

Child Safety

3. Locate the correct anchor on the back panel of the rear seat for the selected seating position. The anchors are labeled with the tether strap symbol and are partially covered by the gap panel. Pull the panel back to fully expose the anchors.
4. Clip the tether strap to the anchor as shown.
5. Adjust the front passenger seat full rearward.
6. Tighten the child safety seat tether strap according to the manufacturer's instructions. If your child restraint system is equipped with a tether strap, and the child restraint manufacturer recommends its use, Ford also recommends its use.

Rear Seats

1. Route the child safety seat tether strap over the back of the seat, under the head restraint and between the head restraint posts.



E177640

2. Locate the correct anchor on the back panel of the rear seat for the selected seating position. The anchors are labeled with the tether strap symbol and are partially covered by the gap panel. Pull the panel back to fully expose the anchors.
3. Clip the tether strap to the anchor as shown.
4. Tighten the child safety seat tether strap according to the manufacturer's instructions. If your child restraint system is equipped with a tether strap, and the child restraint manufacturer recommends its use, Ford also recommends its use.

Child Safety

BOOSTER SEATS

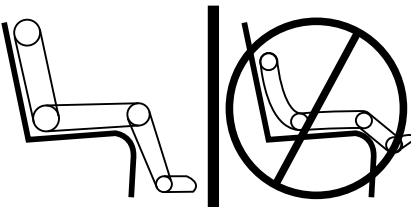
WARNING



Never place, or allow a child to place, the shoulder belt under a child's arm or behind the back because it reduces the protection for the upper part of the body and may 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 seat (generally children who are less than 4 feet 9 inches (1.45 meters) tall, are greater than age four (4) and less than age twelve (12), and between 40 pounds (18 kilograms) and 80 pounds (36 kilograms) and upward to 100 pounds (45 kilograms) 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 4 feet 9 inches (1.45 meters) tall, or 80 pounds (36 kilograms).

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



E142595

- Can the child sit all the way back against their vehicle seat back 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 back 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 back or head restraint and lap and shoulder belts, or consider using a high back booster seat.

Child Safety



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.



E142596



E142597



Child Safety

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

CHILD RESTRAINT POSITIONING

WARNINGS



Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the vehicle seat upon which the child seat is installed all the way back. When possible, all children age 12 and under should be properly restrained in a rear seating position. If all children cannot be seated and restrained properly in a rear seating position, properly restrain the largest child in the front seat.



Always carefully follow the instructions and warnings provided by the manufacturer of any child restraint to determine if the restraint device is appropriate for your child's size, height, weight, or age. Follow the child restraint manufacturer's instructions and warnings provided for installation and use in

WARNINGS

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.



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



Never use pillows, books, or towels to boost a child. They can slide around and increase the likelihood of injury or death in a crash.



Always restrain an unoccupied child seat or booster seat. These objects may become projectiles in a crash or sudden stop, which may increase the risk of serious injury.



Never place, or allow a child to place, the shoulder belt under a child's arm or behind the back because it reduces the protection for the upper part of the body and may increase the risk of injury or death in a crash.



To avoid risk of injury, do not leave children or pets unattended in your vehicle.

Child Safety

Recommendations for attaching child safety restraints for children

Restraint type	Combined weight of child and child restraint seat	Use any attachment method as indicated below by X				
		LATCH (lower anchors and top tether anchor)	LATCH (lower anchors only)	Safety belt and top tether anchor	Safety belt and LATCH (lower anchors and top tether anchor)	Safety belt only
Rear facing child seat	Up to 65 lb (29.5 kg)		X			X
Rear facing child seat	Over 65 lb (29.5 kg)					X
Forward facing child seat	Up to 65 lb (29.5 kg)	X		X	X	
Forward facing child seat	Over 65 lb (29.5 kg)			X	X	

Note: The child seat 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 97).

CHILD SAFETY LOCKS

WARNING



You cannot open the rear side door from inside if you have put the child safety lock on.



E176718

A child safety lock is on the rear side door.

Left-Hand Side

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

Child Safety

Right-Hand Side

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

Seatbelts

PRINCIPLE OF OPERATION

WARNINGS



Always drive and ride with the seatback upright and the lap belt snug and low across the hips.



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



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



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



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 safety belts. Be sure everyone in your vehicle is in a seat and using a safety belt properly.



In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a safety belt.



Each seating position in your vehicle has a specific safety belt 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 swing the safety belt around your neck over the inside shoulder. 3) Never use a single belt for more than one person.

WARNINGS



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.



Safety belts 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.



Front and rear seat occupants, including pregnant women, should wear safety belts for optimum protection in an accident.

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

The safety belt system consists of:

- Lap and shoulder safety belts.
- Shoulder safety belt with automatic locking mode, (except driver safety belt).
- Height adjuster at the front outboard seating positions.
- Safety belt pretensioner at the front outboard seating positions.



- Safety belt warning light and chime.



- Crash sensors and monitoring system with readiness indicator.

Seatbelts

The safety belt pretensioners at the front seating positions are designed to tighten the safety belts when activated. In frontal and near-frontal crashes, side crashes and rollovers, the safety belt pretensioners may be activated alone or, if the crash is of sufficient severity, together with the front airbags.

FASTENING THE SEATBELTS

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



E142587

1. Insert the safety 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

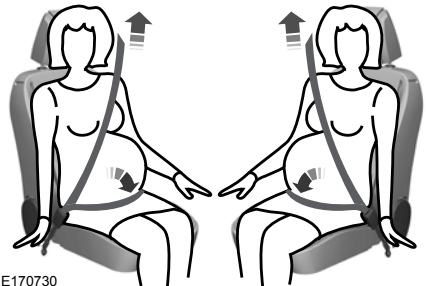
2. To unfasten, press the release button and remove the tongue from the buckle.

Using Safety Belts During Pregnancy

WARNING



Always ride and drive with your seat back upright and the safety belt properly fastened. The lap portion of the safety belt should fit snug and be positioned low across the hips. The shoulder portion of the safety belt should be positioned across the chest. Pregnant women should also follow this practice. See the following figure.



E170730

Pregnant women should always wear their safety belt. The lap belt portion of a combination lap and shoulder belt should be positioned low across the hips below the belly and worn as tight as comfort will allow. The shoulder belt should be positioned to cross the middle of the shoulder and the center of the chest.

Seatbelts

Safety Belt Locking Modes

WARNINGS



After any vehicle crash, the safety belt system at all passenger seating positions must be checked by an authorized dealer to verify that the automatic locking retractor feature for child seats is still functioning properly. In addition, all safety belts should be checked for proper function.



Safety belt and retractor assemblies must be replaced if the safety belt assembly automatic locking retractor feature, or any other safety belt function is not operating correctly when checked by an authorized dealer. Failure to replace the safety belt and retractor assembly could increase the risk of injury in a crash.

All safety belts in your vehicle are combination lap and shoulder belts. The driver safety belt has the first type of locking mode, and the front outboard passenger and rear seat safety belts 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 approximately 5 mph (8 km/h) or more, the combination safety belts will lock to help reduce forward movement of the driver and passengers.

In addition, the retractor is designed to lock if the webbing is pulled out too quickly. If this occurs, let the safety belt retract slightly and pull webbing out again in a slow and controlled manner.

Automatic Locking Mode

In this mode, the shoulder belt is automatically pre-locked. The safety belt will still retract to remove any slack in the shoulder belt. The automatic locking mode is not available on the driver safety belt.

When to Use the Automatic Locking Mode

This mode should be used any time a child safety seat, except a booster, is installed in passenger front or rear seating positions. Children 12 years old and under should be correctly restrained in a rear seating position whenever possible. See **Child Safety** (page 15).

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 the entire safety belt is pulled out.

Allow the safety belt to retract. As the safety belt retracts, you will hear a clicking sound. This indicates the safety belt is now in the automatic locking mode.

Seatbelts

How to Disengage the Automatic Locking Mode

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

Safety Belt Extension Assembly

WARNING



Do not use extensions to change the fit of the shoulder belt across the torso.

If the safety belt is too short when fully extended, a safety belt extension assembly can be obtained from an authorized dealer.

Only use extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label or the retractor behind the trim. Only use an extension if the safety belt is too short for you when fully extended.

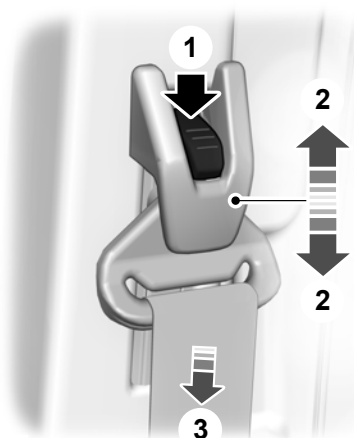
SEATBELT HEIGHT ADJUSTMENT

WARNING



Position the safety belt height adjuster so that the safety belt rests across the middle of your shoulder.

Failure to adjust the safety belt correctly could reduce its effectiveness and increase the risk of injury in a crash.



E165022

1. Press the button.
2. Slide the height adjuster up or down.
3. 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 audible warning will sound if the driver's safety belt has not been fastened when the vehicle's ignition is turned on.

Seatbelts

Conditions of operation

If...	Then...
The driver's safety belt is not buckled before the ignition switch is turned to the on position...	The safety belt warning light illuminates 1-2 minutes and the warning chime sounds 4-8 seconds.
The driver's safety belt is buckled while the indicator light is illuminated and the warning chime is sounding...	The safety belt warning light and warning chime turn off.
The driver's safety belt is buckled before the ignition switch is turned to the on position...	The safety belt warning light and indicator chime remain off.

SEATBELT REMINDER

Belt-Minder®

This feature supplements the safety belt warning function by providing additional reminders by intermittently sounding a chime and illuminating the safety belt warning light when the driver seat is occupied and the safety belt is unbuckled.

If...	Then...
The driver safety belt is buckled before the ignition is switched on or less than two minutes have elapsed since the ignition was switched on.	The Belt-Minder feature will not turn on.
The driver safety belt is not buckled when the vehicle has reached at least 6 mph (9.7 km/h) and two minutes have elapsed since the ignition was switched on.	The Belt-Minder feature is turned on - the safety belt warning light illuminates and the warning chime sounds for six seconds every 25 seconds, repeating for about five minutes or until the driver safety belt is buckled.
The driver safety belt becomes unbuckled for about one minute while the vehicle is traveling at least 6 mph (9.7 km/h) and more than two minutes have elapsed since the ignition was switched on.	The Belt-Minder feature is turned on - the safety belt warning light illuminates and the warning chime sounds for six seconds every 25 seconds, repeating for about five minutes or until the driver safety belt is buckled.

Seatbelts

Switching the Belt-Minder on and off

WARNING



While the system allows you to switch it off, this system is designed to improve your chances of being safely belted and surviving a crash. We recommend you leave the system switched on. To reduce the risk of injury, do not switch the system on or off while driving your vehicle.

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

The system can be switched on and off by carrying out the following procedure:

Before following the procedure, make sure that:

- The parking brake is set.
 - The transmission selector lever is in position park (**P**).
 - The ignition is switched off.
 - The driver safety belt is unbuckled.
1. Switch the ignition on. Do not start the engine.
 2. Wait until the safety belt warning light turns off (about one minute). After Step 2, wait an additional five seconds before proceeding with Step 3. Once Step 3 is started, the procedure must be completed within 30 seconds.
 3. Buckle then unbuckle the driver safety belt three times at a moderate speed, ending in the unbuckled state. After Step 3, the safety belt warning light will illuminate.
 4. While the safety belt warning light is illuminated, buckle then unbuckle the driver safety belt. After Step 4, the safety belt warning light will flash for confirmation.

- This will disable the feature if it is currently enabled.
- This will enable the feature if it is currently disabled.

CHILD RESTRAINT AND SEATBELT MAINTENANCE

Inspect the vehicle safety belts and child safety seat systems periodically to make sure they work properly and are not damaged. Inspect the vehicle and child seat safety belts to make sure there are no nicks, tears or cuts. Replace if necessary. All vehicle safety belt assemblies, including retractors, buckles, front safety belt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seat back (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.

Ford Motor Company recommends that all safety belt 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. Safety belt assemblies not in use during a crash should also be inspected and replaced if either damage or improper operation is noted.

Properly care for safety belts. See **Vehicle Care** (page 234).

Supplementary Restraints System

PRINCIPLE OF OPERATION

WARNINGS



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.



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



Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints. Failure to follow this could seriously increase the risk of injury or death.



Never place your arm over the airbag module as a deploying airbag can result in serious arm fractures or other injuries.



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



Do not attempt to service, repair, or modify the airbag supplemental restraint systems or its fuses as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.



Several airbag system components get hot after inflation. Do not touch them after inflation as this may result in serious injury.



If the airbag has deployed, the airbag will not function again and must be replaced immediately. If the airbag is not replaced, the unrepaired area will increase the risk of injury in a crash.

The airbags are a supplemental restraint system and are designed to work with the safety belts 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.

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.

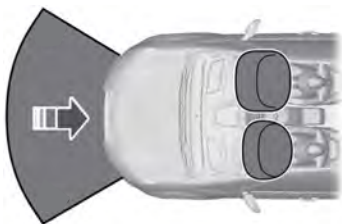
Supplementary Restraints System

DRIVER AND PASSENGER AIRBAGS

WARNINGS

 Never place your arm or any objects over an airbag module. Placing your arm over a deploying airbag can result in serious arm fractures or other injuries. Objects placed on or over the airbag inflation area may cause those objects to be propelled by the airbag into your face and torso causing serious injury.

 Airbags can kill or injure a child in a child seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the seat upon which the child seat 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.
- Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 45).



Passenger Airbag On and Off Switch (If Equipped)

WARNINGS

 Even with Restraints Systems, children 12 and under should be properly restrained in a rear seating position. Failure to follow this could seriously increase the risk of injury or death.

 The front passenger airbag is not designed to offer protection to an occupant in the center seating position.

 An airbag ON and OFF switch may be installed in this vehicle. Before driving, always look at the face of the switch to be sure the switch is in the proper position in accordance with these instructions and warnings. Failure to put the switch in a proper position can increase the risk of serious injury or death in a crash.



E181532

High-series vehicles (If equipped)

The front passenger airbag on and off switch has indicators that will illuminate, indicating that the front passenger frontal airbag is either on or off. The indicator lamp is located on the radio.

Supplementary Restraints System

Note: The passenger airbag status indicator OFF and ON lamps illuminate for a short period of time when you switch the ignition on to confirm it is functional.

Switch position	Passenger airbag status indicator	Passenger airbag
Off	OFF: Lit	Disabled
	ON: Unlit	
On	OFF: Unlit	Enabled
	ON: Lit	



E170613

Low-series vehicles (if equipped)

The front passenger airbag on and off switch has an indicator that illuminates and stays lit to remind you that the front passenger frontal airbag is off. The indicator lamp is located by the radio.

Note: The indicator lamp will illuminate for a short period of time when the ignition is first turned on to confirm it is functional.

Turning the Passenger Airbag Off

WARNINGS



If the light fails to illuminate when the passenger airbag switch is off and the ignition is on, have the passenger airbag switch serviced at your authorized dealer immediately.



In order to avoid inadvertent activation of the switch, always remove the ignition key from the passenger airbag on and off switch.

WARNINGS



An infant in a rear-facing seat faces a high risk of serious or fatal injuries from a deploying passenger airbag. Rear facing infant seats should never be placed in the front seats, unless the passenger airbag is turned off.

Supplementary Restraints System



E181523



E181522

1. Insert the ignition key, turn the switch to OFF and hold in OFF while removing the key.

2. When the ignition is turned on, the pass airbag off light illuminates briefly, momentarily shuts off and then turns back on. This indicates that the passenger airbag is deactivated.

Turning the Passenger Airbag Back On

WARNINGS



The safety belts for the driver and right front passenger seating positions have been specifically designed to function together with the airbags in certain types of crashes. When you turn off your airbag, you not only lose the protection of the airbag, you also may reduce the effectiveness of your safety belt system, which was designed to work with the airbag. If you are not a passenger who meets the requirements stated in the National Highway Traffic Safety Administration or Transport Canada deactivation criteria turning off the airbag can increase the risk of serious injury or death in a crash.



If your vehicle has rear seats, always transport children who are 12 years and under in the rear seat. Always use safety belts and child restraints correctly. Do not place a child in a rear facing infant seat in the front seat unless your vehicle is equipped with an airbag on and off switch and the passenger airbag is turned off. This is because the back of the infant seat is too close to the inflating airbag and the risk of a fatal injury to the infant when the airbag inflates is substantial.



If the pass airbag off light is illuminated when the passenger airbag switch is on and the ignition is on, have the passenger airbag switch serviced at your authorized dealer immediately.

The passenger airbag remains off until you turn it back on.

Supplementary Restraints System



E181521

1. Insert the ignition key and turn the switch to ON.
2. The pass airbag off light will briefly illuminate when the ignition is turned to on. This indicates that the passenger airbag is operational.

The passenger side airbag should always be on (the pass airbag off light should not be illuminated) unless the passenger meets the requirements stated either in Category 1, 2 or 3 of the National Highway Traffic Safety Administration or Transport Canada deactivation criteria which follows.

The vast majority of drivers and passengers are much safer with an airbag than without. To do their job and reduce the risk of life threatening injuries, airbags must open with great force, and this force can pose a potentially deadly risk in some situations, particularly when a front seat passenger is not using the safety belt correctly. The most effective way to reduce the risk of unnecessary airbag injuries without reducing the overall safety of your vehicle is to make sure all passengers are correctly restrained in the vehicle, especially in the front seat. This provides the protection of safety belts and permits the airbags to provide the additional protection they were designed to provide.

If you choose to deactivate your airbag, you are losing the very significant risk reducing benefits of the airbag and you are also reducing the effectiveness of the safety belts, because safety belts in modern vehicles are designed to work as a safety system with the airbags.

National Highway Traffic Safety Administration Deactivation Criteria (Excluding Canada)

WARNING



This vehicle has special energy management safety belts for the driver and right front passenger. These particular belts are specifically designed to work with airbags to help reduce the risk of injury in a crash. The energy management safety belt is designed to give or release additional belt webbing in some accidents to reduce concentration of force on an occupant's chest and reduce the risk of certain bone fractures and injuries to underlying organs. In a crash, if the airbag is turned off, this energy management safety belt might permit the person wearing the belt to move forward enough to incur a serious or fatal injury. The more severe the crash, and the heavier the occupant, the greater the risk is. Be sure the airbag is turned on for any person who does not qualify under the National Highway Traffic Safety Administration deactivation criteria.

1. **Infant.** An infant (less than 1 year old) must ride in the front seat because:

Supplementary Restraints System

- The vehicle has no rear seat;
- The vehicle has a rear seat too small to accommodate a rear-facing infant seat; or
- The infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front so that the driver can constantly monitor the child's condition.

2. Child age 1 to 12. A child age 1 to 12 must ride in the front seat because:

- The vehicle has no rear seat;
- Although children ages 1 to 12 ride in the rear seat(s) whenever possible, children ages 1 to 12 sometimes must ride in the front because no space is available in the rear seat(s) of the vehicle; or
- The child has a medical condition which, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can constantly monitor the child's condition.

3. Medical condition. A passenger has a medical condition which, according to his or her physician:

- Causes the passenger airbag to pose a special risk for the passenger;
- Makes the potential harm from the passenger airbag in a crash greater than the potential harm from turning off the airbag and allowing the passenger, even if belted, to hit the dashboard or windshield in a crash.

Transport Canada Deactivation Criteria (Canada Only)

WARNING



This vehicle has special energy management safety belts for the driver and right front passenger.

These particular belts are specifically designed to work with airbags to help reduce the risk of injury in a crash. The energy management safety belt is designed to give or release additional belt webbing in some accidents to reduce concentration of force on an occupant's chest and reduce the risk of certain bone fractures and injuries to underlying organs. In a crash, if the airbag is turned off, this energy management safety belt might permit the person wearing the belt to move forward enough to incur a serious or fatal injury. The more severe the crash, and the heavier the occupant, the greater the risk is. Be sure the airbag is turned on for any person who does not qualify under the National Highway Traffic Safety Administration deactivation criteria.

1. Infant: An infant (less than 1 year old) must ride in the front seat because:

- My vehicle has no rear seat;
- The rear seat in my vehicle cannot accommodate a rear-facing infant seat;
- The infant has a medical condition which, according to the infant's physician, makes it necessary for the infant to ride in the front seat so that the driver can monitor the infant's condition.

2. Child age 12 or under: A child age 12 or under must ride in the front seat because:

Supplementary Restraints System

- My vehicle has no rear seat;
- Although children age 12 and under ride in the rear seat whenever possible, children age 12 and under have no option but to sometimes ride in the front seat because rear seat space is insufficient;
- The child has a medical condition that, according to the child's physician, makes it necessary for the child to ride in the front seat so that the driver can monitor the child's condition.

3. **Medical condition:** A passenger has a medical condition that, according to his or her physician:

- Poses a special risk for the passenger if the airbag deploys; and
- Makes the potential harm from the passenger airbag deployment greater than the potential harm from turning off the airbag and experiencing a crash without the protection offered by the airbag

Proper Driver and Front Passenger Seating Adjustment

WARNING



The National Highway Traffic Safety Administration recommends a minimum distance of at least 10 inches (25 centimeters) 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.

After all occupants have adjusted their seats and put on safety belts, it is very important that they continue to sit properly. Properly seated occupants sit upright, lean against the seat back, and center themselves 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 seat. Never place a rear-facing child seat in front of an active airbag. If you must use a forward-facing child seat in the front seat, move the seat upon which the child seat 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.

Supplementary Restraints System

SIDE AIRBAGS (If Equipped)

WARNINGS



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.



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.



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



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.



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 found on your vehicle.
- Side airbags located inside the seatback of the driver and front passenger seats.



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

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™ (If Equipped)

WARNINGS



Do not place objects or mount equipment on or near the headliner at the side rail 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.

Supplementary Restraints System

WARNINGS



Do not lean your head on the door. The safety canopy could injure you as it deploys from the headliner.



Do not attempt to service, repair, or modify the safety canopy, its fuses, the pillar trims, or the headliner on a vehicle with a safety canopy as you could be seriously injured or killed. Contact your authorized dealer as soon as possible.



All occupants of your vehicle including the driver should always wear their safety belts even when an airbag supplemental restraint system and safety canopy are provided. Failure to wear your safety belt correctly could seriously increase the risk of personal injury or death.

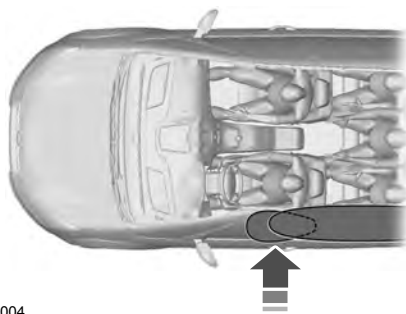


To reduce risk of personal injury, do not obstruct or place objects in the deployment path of the safety canopy.



If a safety canopy deploys it will not function again. The safety canopy, including the pillar trims and headliner, must be inspected and serviced by an authorized dealer. If the safety canopy is not replaced, the unrepaired area will increase the risk of personal injury in a crash.

The Safety Canopy will deploy during significant side crashes or when a certain likelihood of a rollover event is detected by the rollover sensor. The Safety Canopy is mounted to the roof side rail behind the headliner and 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.



E75004

The system consists of the following:

- Safety canopy airbags located 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 safety canopy deployment



- The crash sensors and monitoring system have a readiness indicator. See **Crash Sensors and Airbag Indicator** (page 45).

Children 12 years old and under should always be properly restrained 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.

Supplementary Restraints System

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 personal injury related to the deployment of a safety canopy.

CRASH SENSORS AND AIRBAG INDICATOR

WARNING



Do not modify the front end of your vehicle. Adding equipment to the front of the vehicle, including the frame, bumper, front body structure or recovery hook may affect the performance of the airbag system, increasing the risk of personal injury.

The vehicle has a collection of crash sensors which provide information to the supplemental restraint system control module. The system will deploy the front safety belt pretensioners, driver airbag, passenger airbag, seat mounted side airbags or safety canopy based on the type of crash, for example frontal impact or side impact. The supplemental restraint system control module will deploy the appropriate safety devices.

The supplemental restraint system control module also monitors the readiness of the above safety devices plus the crash sensors. The readiness of the supplemental restraint system is indicated by a warning lamp in the instrument cluster or by a backup tone if the warning lamp is not working. Routine maintenance of the airbags is not required.

If a fault is present in the supplemental restraint system it is indicated by one or more of the following:



The warning lamp will not illuminate when you switch the ignition on.

- The warning lamp will either flash or stay illuminated.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the fault, the warning lamp or both are repaired.

If the above occurs, even intermittently, have the system checked by an authorized dealer immediately. Unless repaired, the system may not operate correctly in the event of a crash.

The safety belt pretensioners and the front airbags are designed to deploy when the vehicle sustains longitudinal deceleration sufficient to cause the supplemental restraint system control module to deploy a safety device.

The fact that the safety belt pretensioners or front airbags did not deploy for all front seat occupants in a crash does not mean there is a fault with the system. The supplemental restraint system control module determines crash conditions, severity and safety belt usage to deploy the appropriate safety devices.

- The design of the front airbags is to deploy only in frontal and near-frontal crashes, for example not rollovers, side impacts or rear impacts, unless the crash causes sufficient longitudinal deceleration.
- The design of the safety belt pretensioners is to deploy only in frontal and near-frontal crashes, and may also deploy if a safety canopy deploys.

Supplementary Restraints System

- The design of the side airbags is to deploy only in certain side impact crashes. Side airbags may deploy in other types of crashes if your vehicle experiences sufficient sideways motion or deformation.
- The design of the safety canopy is to deploy only in certain side impact crashes or rollover events. The safety canopy may deploy in other types of crashes if your vehicle experiences sufficient sideways motion or deformation, or the likelihood of a rollover event.

AIRBAG DISPOSAL

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

Keys and Remote Controls

PRINCIPLE OF OPERATION

The remote control allows you to:

- remotely lock or unlock the vehicle doors
- unlock the doors without actively using a key or remote control (intelligent access only)
- remotely open the power liftgate (if equipped)
- remotely start or stop the engine (if equipped)
- arm and disarm the anti-theft system
- activate the panic alarm.

GENERAL INFORMATION ON RADIO FREQUENCIES

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

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

The typical operating range for your transmitter is approximately 33 feet (10 meters). 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

The radio frequency used by your remote control can also be used by other short distance radio transmissions, for example amateur radios, medical equipment, wireless headphones, remote controls and alarm systems. 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

Integrated Key head Transmitter (If Equipped)



E177585

Use the key blade to start your vehicle and unlock or lock the driver door from outside your vehicle. The transmitter portion functions as the remote control.

Keys and Remote Controls



E138615

Note: Your vehicle's keys came with a security label that provides important vehicle key cut information. Keep the label in a safe place for future reference.

Programming a New Remote Control

To program an additional remote control See **Passive Anti-Theft System** (page 61).

Replacing the Battery

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

Note: Refer to local regulations when disposing of transmitter batteries.

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

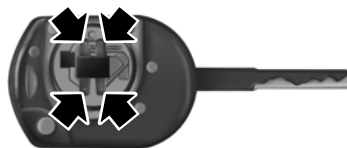
Note: Replacing the battery will not delete the transmitter from the vehicle. The transmitter should operate normally.

Integrated Key head Transmitter



E138619

1. Twist a thin coin in the slot of the transmitter near the key ring to remove the battery cover.
2. Remove the old battery.



E138620

3. Insert the new battery. Refer to the instructions inside the transmitter for the correct orientation of the battery. Press the battery down to make sure it is fully in the housing.
4. Snap the battery cover back onto the transmitter.

Car Finder

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

Keys and Remote Controls

Note: *If locking was not successful or if any door is open, or if the hood is open on vehicles with a perimeter alarm or remote start, the horn will sound and the direction indicators will not flash.*

Sounding a Panic Alarm

Note: *The alarm will only operate when the ignition is off.*



Press the button to turn on the alarm. Press the button again or switch the ignition on to turn off.

REPLACING A LOST KEY OR REMOTE CONTROL

You can purchase replacement keys or remote controls from an authorized dealer. Authorized dealers can program remote controls for your vehicle. See **Remote Control** (page 47).

To re-program the passive anti-theft system see an authorized dealer.

PRINCIPLE OF OPERATION

MyKey allows you to program keys with restricted driving modes to promote good driving habits. All but one of the keys can be activated with these restricted modes.

Any keys that remain unprogrammed are referred to as administrator keys or admin keys. They can be used to:

- Create a MyKey.
- Program configurable MyKey settings.
- Clear all MyKey features.

When you have created a MyKey, you can access the following information by using the information display to determine:

- How many admin keys and MyKeys are programmed to your vehicle.
- The total distance your vehicle traveled with a MyKey.

Note: Switch the ignition on to use the system.

Note: All MyKeys are programmed to the same settings. You cannot program them individually.

Non-configurable Settings

The following settings cannot be changed by an admin key user:

- Safety belt minder. You cannot disable this feature. The audio system will mute when the driver's safety belt is not fastened.
- Early low fuel. The low-fuel warning activates earlier, giving the MyKey user more time to refuel.
- Driver assist features, if equipped on your vehicle, are forced on: parking aid, Blind Spot Information System (BLIS) with cross traffic alert, lane departure warning and forward collision warning system.

Configurable Settings

With an admin key, you can configure certain MyKey settings when you first create a MyKey and before you recycle the key or restart the engine. You can also change the settings afterward with an admin key.

- A vehicle speed limit can be set. Warnings will be shown in the display followed by an audible tone when your vehicle reaches the set speed. You cannot override the set speed by fully depressing the accelerator pedal or by setting cruise control.

WARNING



Do not set MyKey maximum speed limit to a limit that will prevent the driver from maintaining a safe speed considering posted speed limits and prevailing road conditions. The driver is always responsible to drive in accordance with local laws and prevailing conditions. Failure to do so could result in accident or injury.

- Various vehicle speed minders can be set. Once you select a speed, it will be shown in the display, followed by an audible tone when the preselected vehicle speed is exceeded.
- Audio system maximum volume of 45%. A message will be shown in the display when you attempt to exceed the limited volume. Also, the speed-sensitive or compensated automatic volume control will be disabled.
- Always on setting. When this is selected, you will not be able to turn off traction control (if your vehicle is equipped with this feature).

CREATING A MYKEY

You can program a MyKey using the information display control on the steering

wheel. See **Information Displays** (page 82).

Insert the key you want to program into the ignition and switch the ignition on.

Press the left arrow button to access the main menu and scroll to:

Message	Action and Description
Settings	Press the OK button.
MyKey	Press the OK button.
Create MyKey	When prompted, hold the OK button until you see a message informing you to label this key as a MyKey. The key will be restricted at your vehicle's next start. Make sure you label the key so you can distinguish it from the admin keys. You can also program configurable settings for the key(s). Refer to the following Programming/Changing Configurable Settings .

Programming/Changing Configurable Settings

Switch the ignition on using an admin key or fob.

Use the information display to access the configurable MyKey settings, scroll to:

Message	Action and Description
Settings	Press the OK button.
MyKey	Use the up and down arrow buttons to scroll to a configurable feature. Press the OK or right arrow button to make a selection. Choose your applicable setting.

Note: You can clear or change your MyKey settings at any time during the same key cycle as you created the MyKey. Once you switch the ignition off you will need an admin key to change or clear your MyKey settings.

CLEARING ALL MYKEYS

You can clear or change your MyKey settings using the information display

control on the steering wheel. See **Information Displays** (page 82).

Switch the ignition on using an admin key or remote control.

To clear all MyKeys of all MyKey settings, press the left arrow button to access the main menu and scroll to:

Message	Action and Description
Settings	Press the OK button.
MyKey	Press the OK button.
Clear MyKey	Press and hold the OK button until the following message displays.
All MyKeys Cleared	

Note: When you clear your MyKeys, you remove all restrictions and return all MyKeys to their original admin key status.

CHECKING MYKEY SYSTEM STATUS

You can find information on programmed MyKey(s) using the information display control on the steering wheel. See **Information Displays** (page 82).

To find information on programmed MyKey(s), press the left arrow button to access the main menu and scroll to:

Message	Description
Settings	Press the OK button.
MyKey	Press the OK button.
Select one of the following:	
MyKey Dist.	Tracks the distance when drivers use a MyKey. The only way to delete the accumulated distance is by using an admin key to clear your MyKeys. If the distance does not accumulate as expected, then the intended user is not using the MyKey, or an admin key user recently cleared and then recreated a MyKey.
{0} MyKeys	Indicates the number of MyKeys programmed to your vehicle. Use this feature to detect how many MyKeys you have for your vehicle and determine when a MyKey has been deleted.
{0} Admin Keys	Indicates how many admin keys are programmed to your vehicle. Use this feature to determine how many unrestricted keys you have for your vehicle, and detect if an additional MyKey has been programmed.

USING MYKEY WITH REMOTE START SYSTEMS

MyKey is not compatible with non

Ford-approved, aftermarket remote start systems. If you choose to install a remote start system, see an authorized dealer for a Ford-approved remote start system.

MYKEY TROUBLESHOOTING

Condition	Potential Causes
I cannot create a MyKey.	• The key or transmitter used to start the vehicle does not have admin privileges. • The key or transmitter used to start the vehicle is the only admin key (there always has to be at least one admin key). • Vehicles with keyless start: The keyless start transmitter is not placed in the backup position. See Starting a Gasoline Engine (page 109). • SecuriLock passive anti-theft system is disabled or in unlimited mode.
I cannot program the configurable settings.	• The key or transmitter used to start your vehicle does not have admin privileges. • No MyKeys are created. See Creating a MyKey (page 51).
I cannot clear the MyKeys.	• The key or transmitter used to start your vehicle does not have admin privileges. • No MyKeys are created. See Creating a MyKey (page 51).
I lost the only admin key.	Purchase a new key from an authorized dealer.

MyKey™ (If Equipped)

Condition	Potential Causes
I lost a key.	Program a spare key. See Passive Anti-Theft System (page 61).
MyKey distances do not accumulate.	• The MyKey user is not using the MyKey. • An admin key holder cleared the MyKeys and created new MyKeys. • The key system has been reset.
No MyKey functions with the keyless entry transmitter.	• An admin transmitter is present at vehicle start. • No MyKeys are created. See Creating a MyKey (page 51).

Locks

LOCKING AND UNLOCKING

Note: Make sure you have locked your vehicle before leaving it unattended.

Note: Do not leave the keys in your vehicle.

Locking

Locking With the Key

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

Locking With the Remote Control



Press the button.

Note: You can lock the driver door with the key. Use the key when the remote control is not functioning.

Unlocking (If Equipped)

Unlocking With the Key

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

Unlocking With the Remote Control



Press the button.

Note: You can unlock the driver door with the key. Use the key when the remote control is not functioning.

Note: When you leave your vehicle unattended for several weeks, the remote control turns off.

Note: Unlock your vehicle and start the engine using the key. Unlocking and starting your vehicle once enables the remote control.

Unlocking the Rear Cargo Doors



Press the button.

Reprogramming the Unlocking Function

You can reprogram the unlocking function so that only the driver door unlocks. See

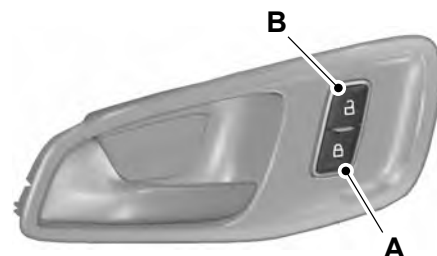
Remote Control (page 47).

Locking and Unlocking Confirmation

When you lock the doors, the direction indicators flash twice.

When you unlock the doors, the direction indicators flash once and a tone sounds.

Locking and Unlocking the Doors From Inside



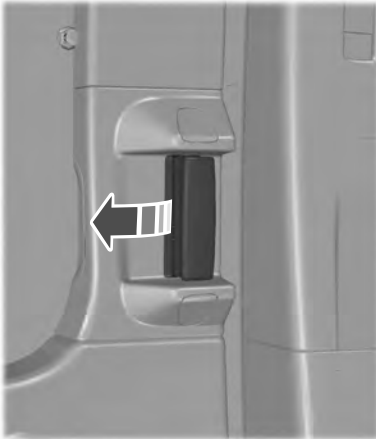
E148829

- A Lock.
- B Unlock.

Locks

Opening and Closing the Sliding Door

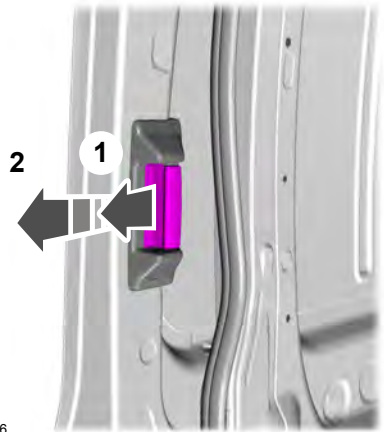
Opening the Sliding Door



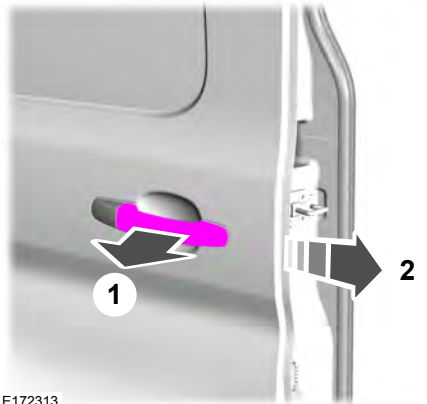
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Pull the interior door handle to open the door.

Closing the Sliding Door



E171966

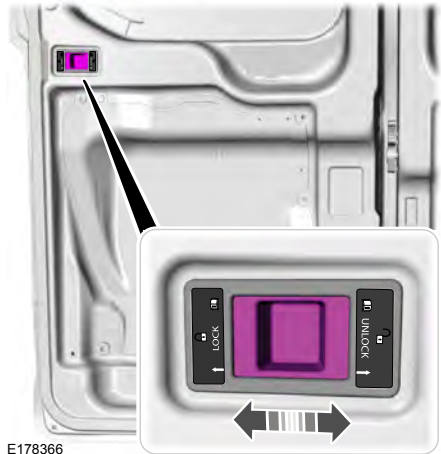
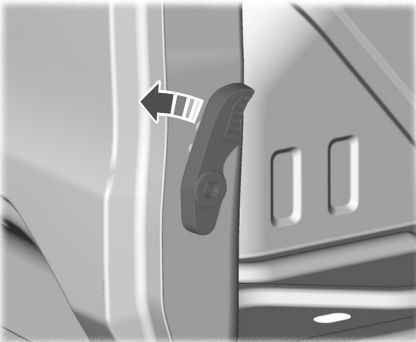


E172313

1. Pull the door handle to release the door check feature.
2. Slide the door to close.

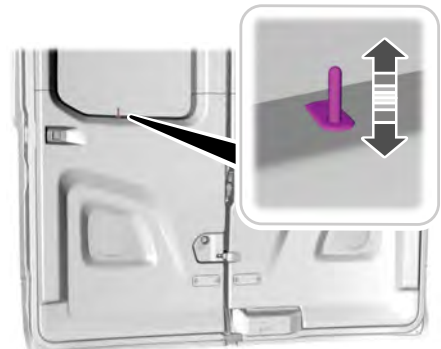
Locks

Opening and Closing the Double Rear Doors



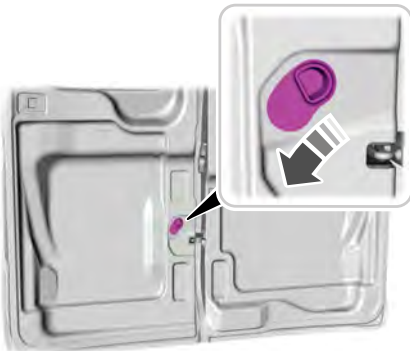
1. Slide the lever to release the catch.
2. Fully open the cargo door.

Unlocking and Opening the Double Rear Doors From Inside



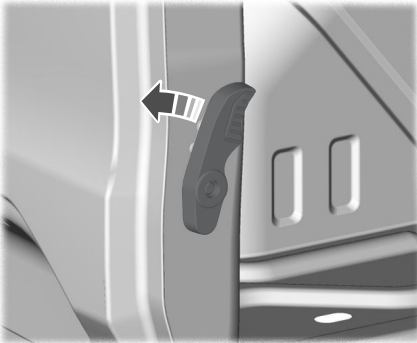
1. Lift the locking button up.

Locks



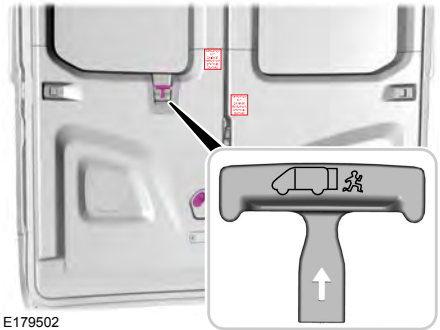
E175955

2. Push the inner release lever down to open the door.

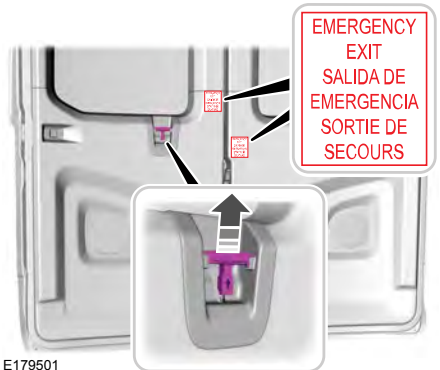


E148806

Rear Emergency Exit Wagon and Bus



E179502



E179501

Pull the interior handle up to open the door in an emergency.

Locks

Automatic Locking

You can set your vehicle's doors to lock automatically when you exceed 5 mph (8 km/h). You can switch this on in the information display. See **Information Displays** (page 82). If you have switched automatic locking on, either use the interior door unlock button or switch the ignition off and use the key or remote control to unlock the rear or sliding door.

Automatic Unlocking

You can switch this function on using the information display. See **Information Displays** (page 82). If you have switched this function on, the automatic unlocking feature unlocks all doors within 10 minutes of the end of a drive cycle, when the driver door is opened and the ignition is off.

One-Stage Unlocking

You can switch on this function using the information display. See **Information Displays** (page 82).

If you have switched on this function, you unlock all doors including the rear doors and the sliding door.

Note: When you unlock the doors, the direction indicators flash once.

You unlock all of the doors when you:

- Press the unlock button on the remote control once.
- Press the interior unlock button once.

Two-Stage Unlocking

Note: When you unlock the doors, the direction indicators flash once.

You unlock the front doors when you:

- Press the unlock button on the remote control once.
- Press the interior unlock button once.

You unlock the front doors and cargo area when you:

- Press the unlock button on the remote control once.
- Press the unlock button on the remote control twice within three seconds.

Zone Re-Locking (If Equipped)

If you enable zone re-locking and open one door, all other doors remain locked. See an authorized dealer for further information.

The locks on van, bus or wagon have two zones, cabin and cargo. For van, the cargo area includes the rear doors and the sliding door. For bus or wagon, the cargo area includes the rear doors.

- Exit your vehicle and press the lock button.
- Press the unlock button or the cargo area unlock button once to open the respective zone.

If you now open a door within the unlocked zone, the other doors in that zone automatically lock.

Configurable Unlocking

Configurable unlocking is set when you purchase your vehicle. It allows you to select which doors unlock when you press, once or twice, the unlock button or the cargo area unlock button on your remote control. You cannot switch this feature back on if you had it switched off. See an authorized dealer for further information.

Security

PASSIVE ANTI-THEFT SYSTEM (If Equipped)

Note: *The system is not compatible with non-Ford aftermarket remote start systems. Use of these systems may result in vehicle starting problems and a loss of security protection.*

Note: *Metallic objects, electronic devices or a second coded key on the same key chain may cause vehicle starting problems if they are too close to the key when starting the engine. Prevent these objects from touching the coded key while starting the engine. Switch the ignition off, move all objects on the key chain away from the coded key and restart the engine if a problem occurs.*

Note: *Do not leave a duplicate coded key in the vehicle. Always take your keys and lock all doors when leaving the vehicle.*

SecuriLock®

The system is an engine immobilization system. It is designed to help prevent the engine from being started unless a correctly coded key for your vehicle is used. Using an incorrectly coded key may prevent the engine from starting. A message may appear in the information display.

If you are unable to start the engine with a correctly coded key, a malfunction has happened and a message may appear in the information display.

Automatic Arming

The engine immobilization system arms immediately after you switch the ignition off.

Automatic Disarming

Switching the ignition on with a correctly coded key disarms the engine immobilization system.

Replacement Keys

The integrated keyhead transmitter functions as a programmed ignition key that operates all the locks and starts your vehicle, as well as a remote control.

If your keys are lost or stolen and you do not have a spare correctly coded key, you will need to have your vehicle towed to an authorized dealer. You need to erase the coded keys from your vehicle and program new coded keys.

Store an extra correctly coded key away from the vehicle in a safe place to help prevent any inconveniences. See an authorized dealer to purchase additional spare or replacement keys.

Programming a Spare Integrated Keyhead Transmitter

You can program your own integrated keyhead transmitter or standard SecuriLock coded keys to your vehicle. This procedure will program both the engine immobilizer keycode and the remote entry portion of the remote control to your vehicle.

Only use integrated keyhead transmitters or standard SecuriLock keys.

You must have two previously programmed correctly coded keys and the new unprogrammed key readily accessible. See an authorized dealer to have the spare key programmed if two previously programmed correctly coded keys are not available.

Read and understand the entire procedure before you begin.

1. Insert the first previously programmed correctly coded key into the ignition.

2. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
3. Switch the ignition off and remove the first correctly coded key from the ignition.
4. After three seconds but within 10 seconds of switching the ignition off, insert the second previously correctly coded key into the ignition.
5. Switch the ignition from off to on. Keep the ignition on for at least three seconds, but no more than 10 seconds.
6. Switch the ignition off and remove the second previously programmed correctly coded key from the ignition.
7. After three seconds but within 10 seconds of switching the ignition off and removing the previously programmed correctly coded key, insert the new unprogrammed key into the ignition.
8. Switch the ignition from off to on. Keep the ignition on for at least six seconds.
9. Remove the newly programmed correctly coded key from the ignition.

If the key has been successfully programmed it will start the engine and operate the remote entry system (if the new key is an integrated keyhead transmitter).

If the key was not successfully programmed, wait 10 seconds and repeat Steps 1 through 8. If you are still unsuccessful, take your vehicle to an authorized dealer.

Note: *You can program a maximum of eight coded keys to your vehicle. All eight can be integrated keyhead transmitters.*

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 you switch the ignition on without a valid key.

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 **Locks** (page 56).

Disarming the Alarm

Disarm and silence the alarm by unlocking the doors with the key and switching the ignition on with a correctly coded key 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. See **Sitting in the Correct Position** (page 97).



E95178

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



E95179

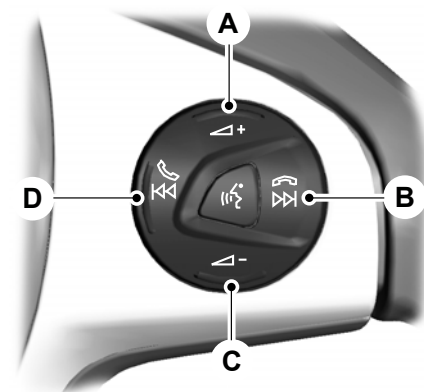
3. Lock the steering column.

AUDIO CONTROL

Select the required source on the audio unit.

Steering Wheel

You can operate the following functions with the control:



E159789

- A Volume up.
- B Seek up, next or end call.
- C Volume down.
- D Seek down, previous or accept call.

Seek, Next or Previous

Press the seek button to:

- Tune the radio to the next or previous stored preset.
- Play the next or the previous track.

Press and hold the seek button to:

- Tune the radio to the next station up or down the frequency band.
- Seek through a track.

VOICE CONTROL



E159531

Press the button to select or deselect voice control. See **SYNC™** (page 311).

CRUISE CONTROL



E142437

See **Using Cruise Control** (page 151).

Steering Wheel

INFORMATION DISPLAY CONTROL



E130248

See **Information Displays** (page 82).

Wipers and Washers

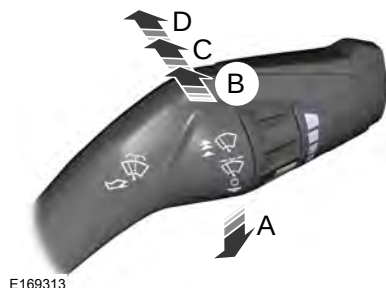
WINDSHIELD WIPERS

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: Clean the windshield and wiper blades if they begin to leave streaks or smears. If that does not resolve the issue, install new wiper blades.

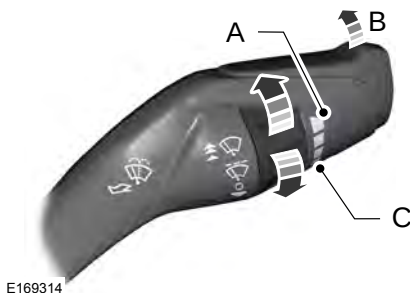
Note: Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washers before wiping a dry windshield.



E169313

- A Single wipe
- B Intermittent wipe
- C Normal wipe
- D High speed wipe

Intermittent Wipe



E169314

- A Shortest wipe interval
- B Intermittent wipe
- C Longest wipe interval

Use the rotary control to adjust the intermittent wipe interval.

Speed Dependent Wipers

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

AUTOWIPERS

Note: Fully defrost the windshield before switching on the windshield wipers.

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

Note: Clean the windshield and wiper blades if they begin to leave streaks or smears. If that does not resolve the issue, install new wiper blades.

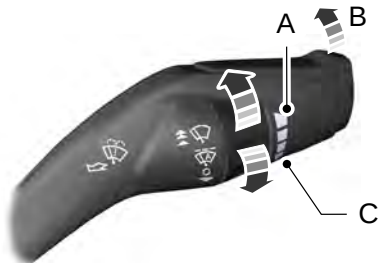
Note: If you switch autolamps on in conjunction with autowipers, your low beam headlamps will illuminate automatically when the rain sensor activates the windshield wipers continuously.

Wipers and Washers

Note: Wet or winter driving conditions with ice, snow or salty road mist can cause inconsistent and unexpected wiping or smearing.

In these conditions, you can do the following to help keep your windshield clear:

- Lower the sensitivity of the autowipers to reduce the amount of smearing.
- Switch to normal or high-speed wipe.
- Switch the autowipers off.



E169315

- A Highest sensitivity
- B On
- C Lowest sensitivity

The autowipers feature uses a rain sensor. You will find it in the area around the interior mirror. The rain sensor monitors the amount of moisture on the windshield and automatically turns on the wipers. It will adjust the wiper speed by the amount of moisture that the sensor detects on the windshield.

Note: This autowiper feature is automatically set to on and remains on until you switch it off in the information display. You can also switch the feature back on at any time. See **Autowipers** (page 66).

Use the rotary control to adjust the sensitivity of the rain sensor. Set the control to low sensitivity, and the wipers will turn on when the rain sensor detects a large amount of moisture on the windshield. Set the control to high sensitivity, and the wipers will turn on when the rain sensor detects a small amount of moisture on the windshield.

Note: When you set the wiper system to intermittent wipe and the autowiper system is on, the autowiper sensitivity setting adjusts the wiper speed according to the moisture on the windshield only. Use the wiper lever to wipe the windshield on-demand.

Keep the outside of the windshield clean. The rain sensor is very sensitive. If the area around the mirror is dirty, then the wipers may operate if dirt, mist or insects hit the windshield.

WINDSHIELD WASHERS

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



E169316

To operate the washers and spray the windshield, pull the lever toward you.

Wipers and Washers

A wipe will occur a few seconds after washing to clear any remaining washer fluid. This feature can be switched on or off in the information display. See **General Information** (page 82).

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.

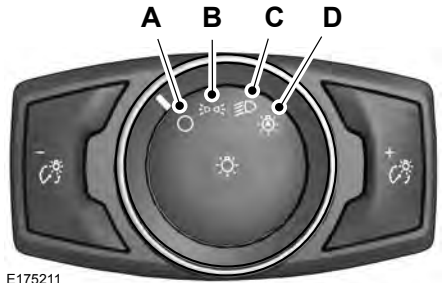
Examples of unacceptable condensation are:

- 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.

LIGHTING CONTROL

Lighting Control Positions



E175211

- A Off.
- B Position lamps, instrument panel lamps, license plate lamps.
- C Headlamps.
- D Autolamps.

High Beams



E163718

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



E163719

Pull the lever slightly toward the steering wheel.

Parking Lamps

Select position B on the lighting control to switch the parking lamps on.

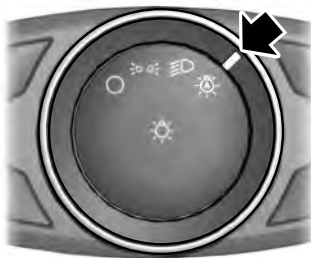
Note: Prolonged use of the parking lamps will cause the battery to run out of charge.

AUTOLAMPS (If Equipped)

WARNING



The autolamps switch position may not activate the headlamps in all low visibility conditions, such as daytime fog. Always ensure that your headlamps are switched to auto or on, as appropriate, during all low visibility conditions. Failure to do so may result in a crash.



E142451

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

If equipped, the following activates when the lighting control is in the autolamps position and you switch them on in the information display:

- Automatic high beam control.

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. See **Information Displays** (page 82).

Note: If you switch autolamps on, you can only switch the high beam headlamps on when the autolamps turn the headlamps on.

Windshield Wiper Activated Headlamps

The windshield wiper activated headlamps turn on within 10 seconds when you switch the windshield wipers on and the lighting control is in the autolamps position. They turn off approximately 60 seconds after you switch the windshield wipers off.

The headlamps will not turn on by wiper activation:

- During a mist wipe.
- When the wipers are on to clear washer fluid during a wash condition.
- If the wipers are in intermittent mode.

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

Lighting

INSTRUMENT LIGHTING DIMMER



E175219

Press it repeatedly or press it and hold it until the desired level is reached.

Note: If you disconnect the battery or it loses charge the instrument lighting will return to its brightest setting.

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. Also, the autolamps switch position may not activate the headlamps in all low visibility conditions, such as daytime fog. Make sure the headlamps are switched to auto or 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. The ignition is switched to the on position.
2. The transmission is not in park (P) for vehicles with automatic transmissions or the parking brake is released for vehicles with manual transmissions.
3. The lighting control is in the off, parking lamp or autolamps positions.
4. The headlamps are off.

DIRECTION INDICATORS



E162681

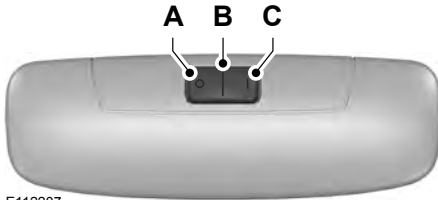
Push the lever up or down to use the direction indicators.

Note: Tap the lever up or down to make the direction indicators flash three times to indicate a lane change.

Lighting

INTERIOR LAMPS

Courtesy Lamp



E112207

- A Off
- B Door contact
- C On

If you set the switch to position B, the courtesy lamps will automatically turn on when you unlock your vehicle or open a door. If you leave a door open with the ignition switched off, they will automatically turn off after a short period of time to prevent the vehicle battery from losing charge. To switch them back on, switch the ignition on for a short period of time.

The courtesy lamps will automatically turn on when you switch the ignition off. They will automatically turn off after a short period of time to prevent the vehicle battery from losing charge.

If you set the switch to position C with the ignition switched off, the courtesy lamps will turn on. They will automatically turn off after a short period of time to prevent the vehicle battery from losing charge. To switch them back on, switch the ignition on for a short period of time.

Reading Lamps



E112208

If you switch the ignition off, the reading lamps will automatically turn off after a short period of time to prevent the vehicle battery from losing charge. To switch them back on, switch the ignition on for a short period of time.

Windows and Mirrors

POWER WINDOWS

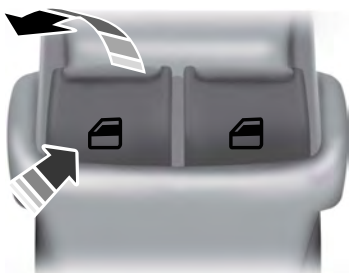
WARNINGS



To avoid risk of injury, do not leave children or pets unattended in your vehicle.



When closing the power windows, you should verify they are free of obstructions and make sure that children and pets are not in the proximity of the window openings.



E146043

Press the control to open the window. The window will stop if you release the switch before the window fully opens.

Lift the control to close the window. The window will stop if you release the switch before the window fully closes.

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

Accessory Delay

You can use the window switches for several minutes when you switch the ignition off or until you open any door.

Driver Side One-Touch Down

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

Driver Side One-Touch Up

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

Bounce-Back

The window will automatically stop and reverse some distance if it detects an obstacle while closing.

Overriding the Bounce-Back Feature

WARNING



When you override the bounce-back feature the window will not reverse if it detects an obstacle. Take care when closing the windows to avoid personal injury or damage to your vehicle.

To override this protection feature when there is a resistance, for example in winter:

1. Close the window twice until it reaches the point of resistance and let it reverse.
2. Close the window a third time to the point of resistance. Bounce-back is now disabled and you can close the window manually. The window will go past the point of resistance and you can close it fully.

If the window does not close after the third attempt the system requires service.

Resetting the Bounce-Back Feature

WARNING



The bounce-back feature remains turned off until it is reset.

1. Lift and hold the switch until the window is fully closed.
2. Release the switch.
3. Lift the switch again for one second.
4. Release the switch.

Windows and Mirrors

5. Lift the switch again for one second.
6. Open the window and then try to close using the one-touch feature.
7. Repeat the procedure if the window does not close using the one-touch feature.

Note: If you disconnect the battery, you must reset the bounce-back memory.

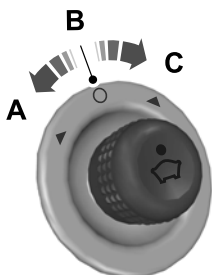
EXTERIOR MIRRORS

Power Exterior Mirrors

WARNING

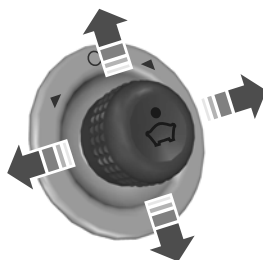


Do not adjust the mirrors when your vehicle is moving. This could result in the loss of control of your vehicle, serious personal injury or death.



E71280

- A Left-hand mirror.
- B Off.
- C Right-hand mirror.



E71281

Move the controller in the direction of the arrows to adjust the mirror.

Fold-Away Exterior Mirrors

Push the mirror toward the door window glass. Make sure that you fully engage the mirror in its support when you unfold it.

INTERIOR MIRROR

WARNING



Do not adjust the mirror when your vehicle is moving.

Note: Do not clean the housing or glass of any mirror with harsh abrasives, fuel or other petroleum or ammonia-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.

Pull the tab below the mirror toward you to reduce glare at night.

Windows and Mirrors

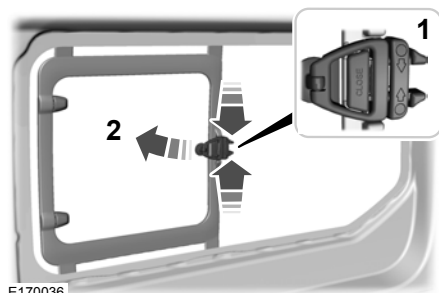
Auto-Dimming Mirror (If Equipped)

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

The mirror will dim automatically to reduce glare when bright lights are detected from behind your vehicle. It will automatically return to normal reflection when you select reverse gear to make sure you have a clear view when backing up.

REAR QUARTER WINDOWS

Opening the Rear Windows (If Equipped)



1. Press the unlock button to release the catch.

Note: Depending on the lock type fitted, you will have to either press the unlock buttons together or down to release the catch.

2. Hold the catch and push the window open. Make sure the catch engages.

Note: There is an audible click when the catch engages.

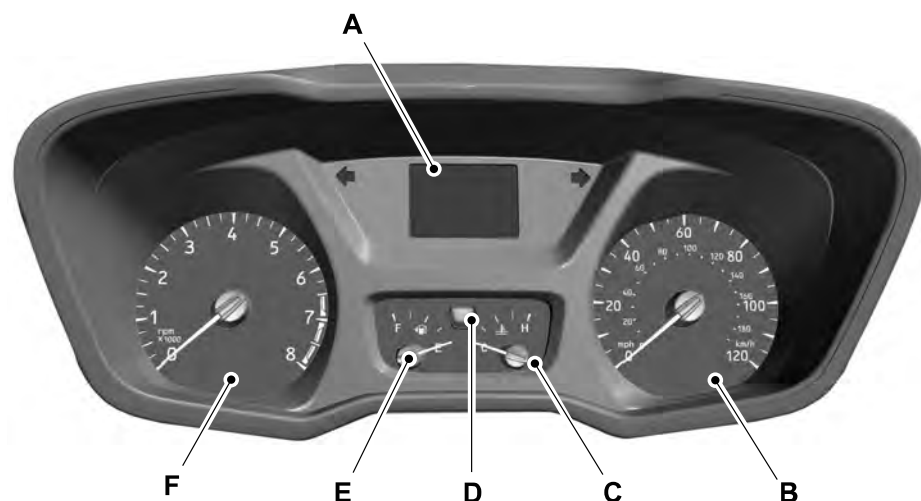
Closing the Rear Windows

1. Hold and pull the catch to close the window.
2. Press the catch to engage the lock.

Note: There is an audible click when the lock engages.

Instrument Cluster

GAUGES



E184961

- A Information display. See **Information Displays** (page 82).
- B Speedometer.
- C Engine coolant temperature gauge.
- D Tripmeter reset and distance to empty toggle button.
- E Fuel gauge.
- F Tachometer.

Information Display

Odometer

Registers the distance your vehicle has traveled.

Outside Air Temperature

Shows the outside air temperature.

Trip Computer

See **Trip Computer** (page 86).

Vehicle Settings and Personalization

See (page 82).

Engine Coolant Temperature Gauge

WARNING



Never remove the coolant reservoir cap while the engine is running or hot.

Instrument Cluster

At normal operating temperature, the needle will remain in the center section.

If the needle enters the red section, the engine is overheating. Stop your vehicle as soon as it is safe to do so and switch the engine off. Determine the cause once the engine has cooled down. See **Engine Coolant Check** (page 214).

Note: *Do not restart the engine until the cause of overheating has been determined and resolved.*

Tripmeter Reset and Distance to Empty (If Equipped)

Press the button to change between the tripmeter and distance to empty information. Press and hold the button to reset the tripmeter.

Fuel Gauge

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

Switch the ignition on. The fuel gauge will indicate approximately 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.

The needle should move toward F when you refuel your vehicle. If the needle points to E after adding fuel, this indicates your vehicle needs service soon.

After refueling some variability in needle position is normal:

- It may take a short time for the needle to reach F after leaving the gas station. This is normal and depends upon the slope of pavement at the gas station.
- The fuel amount dispensed into the tank is a little less or more than the gauge indicated. This is normal and depends upon the slope of pavement at the gas station.
- If the gas station nozzle shuts off before the tank is full, try a different gas pump nozzle.

Low Fuel Reminder

A low fuel reminder triggers when the fuel gauge needle is at 1/16th.

Variations:

Driving type (fuel economy conditions)	Fuel gauge position	Distance-to-empty
Highway driving	1/16th	35 miles to 80 miles (56 km to 129 km)
Severe duty driving (trailer towing, extended idle)	1/16th	35 miles (56km)

Instrument Cluster

WARNING LAMPS AND INDICATORS

The following warning lamps and indicators will alert you to a vehicle condition that may become serious. Some lamps will 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 illuminate when you start your vehicle.

Anti-Lock Brake System



If it illuminates when you are driving, this indicates a malfunction. Your vehicle will continue to have normal braking without Anti-lock brake system function. Have the system checked by an authorized dealer.

Brake System

WARNINGS



Driving your vehicle with the warning lamp on is dangerous. A significant decrease in braking performance may occur. It will take you longer to stop your vehicle. Have the system checked by an authorized dealer.



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 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 the system checked by an authorized dealer.

Battery



If it illuminates when you are driving, this indicates a malfunction. Switch off all unnecessary electrical equipment. Have the system checked by an authorized dealer.

Diesel Warning Lamps (If Equipped)

The following warning lamps are unique for vehicles equipped with a diesel engine.

Exhaust Emission Fluid



If it illuminates when you are driving, this indicates the diesel exhaust fluid is low. See

Selective Catalytic Reduction System (page 119).

If it illuminates, the information display messages will give an indication as to if the problem is diesel exhaust fluid level related or diesel exhaust fluid system malfunction related. If diesel exhaust fluid is at a sufficient level, this indicates a system malfunction. Have your vehicle checked by an authorized dealer immediately.

Glow Plug



It illuminates when you switch the ignition on, wait until it extinguishes before starting the engine.

Instrument Cluster

Water In Fuel



It will illuminate if there is excess water in the fuel filter. Drain off the water immediately. See

Draining the Fuel Filter Water Trap (page 218). If it illuminates after draining the water, this indicates a fuel filter service is required. Have your vehicle checked by an authorized dealer immediately.

Direction Indicator



Flashes during operation. A sudden increase in the rate of flashing warns of a failed indicator bulb. See **Changing a Bulb** (page 225).

Door Ajar



It illuminates when you switch the ignition on and remains on if any door or the hood is open.

Engine Coolant Temperature



If it illuminates 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. Have your vehicle checked by an authorized dealer.

Engine Warning Lamps

Malfunction Indicator



Service Required



All Vehicles

If either lamp illuminates when the engine is running, this indicates a malfunction. The engine will continue to run but it may have limited power. If either lamp flashes when you are driving, reduce the speed of your vehicle immediately. If it continues to flash, avoid heavy acceleration or deceleration. Have your vehicle checked by an authorized dealer.

WARNING



Under engine misfire conditions, excessive exhaust temperatures could damage the catalytic converter, the fuel system, interior floor coverings or other vehicle components, possibly causing a fire. Have an authorized dealer service your vehicle immediately.

If both lamps illuminate when the engine is running, stop your vehicle as soon as it is safe to do so. You may notice a reduction in vehicle speed caused by reduced engine power. Switch the ignition off and attempt to restart the engine. Have your vehicle checked by an authorized dealer.

Front Airbag



If it fails to illuminate when you start your vehicle, continues to flash or remains on, this indicates a malfunction. Have your vehicle checked by an authorized dealer.

Instrument Cluster

High Beam



It will illuminate when you switch the headlamp high beam on. It will flash when you use the headlamp flasher.

Lane Departure



It will illuminate when you switch the system off.

It will illuminate when the system is not available and may indicate a system malfunction. Have your vehicle checked by an authorized dealer.

Low Fuel Level



If it illuminates when you are driving, refuel as soon as possible.

Low Tire Pressure Warning



It will illuminate if the tire pressure in one or more tires is below the correct pressure. See

Tire Pressure Monitoring System (page 260).

Message Center Warning



It will illuminate when a new message is stored in the information display. It will be red or amber in color depending on the severity of the message and will remain on until the cause of the message has been rectified. See **Information Messages** (page 87).

Oil Pressure

WARNING



If it illuminates when you are driving do not continue your journey, even if the oil level is correct. Have your vehicle checked by an authorized dealer.



If it stays on after starting the engine or illuminates 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 212).

Park Lamp



It will illuminate when you switch the headlamp low beam or the side and tail lamps on.

Seatbelt Reminder



It will illuminate and a chime will sound to remind you to fasten your seatbelt. See **Seatbelt Reminder** (page 34).

Stability Control



It will illuminate for a short period of time when you switch the ignition on. If it illuminates when you are driving, this indicates a malfunction. During a malfunction, the system turns off. Have your vehicle checked by an authorized dealer as soon as possible.

Note: While driving, it flashes when the system is operating.

Stability Control Off



It will illuminate when you switch the system off. It will go out when you switch the system back on or when you switch the ignition off.

Transmission Tow/Haul



It will illuminate when you switch the system on. See **Automatic Transmission** (page 136).

Instrument Cluster

If the warning lamp flashes continuously, this indicates a malfunction and damage to the transmission could occur. Have your vehicle checked by an authorized dealer as soon as possible.

AUDIBLE WARNINGS AND INDICATORS

Airbag Secondary Warning

Sounds when there is a fault with the airbag system and the airbag warning lamp.

Door Ajar

Sounds when a door is not fully closed and your vehicle is moving.

Exterior Lamps On

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

Gearshift Lever not in Park (P)

Sounds when the driver door is open, the key is in the ignition and the gearshift lever is not in park (P).

Key in Ignition

Sounds when the driver door is open and the key is in the ignition.

Parking Brake On

Sounds when the parking brake is on and your vehicle is moving. If the warning chime continues to sound when you release the parking brake, have the system checked by an authorized dealer.

Safety Belt Minder

WARNINGS



The safety belt minder remains in stand-by mode when the driver's safety belt has been fastened. It will sound if the driver's safety belt is unfastened.



Do not sit on top of a fastened safety belt to prevent the safety belt minder from coming on. The occupant protection system will only provide optimum protection when you use the safety belt correctly.

Sounds when a safety belt is unfastened in an occupied seat and your vehicle is moving.

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.

The information display shows the corresponding information.

Information Display Controls



E138659

- 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.

Menu Structure - Information Display

You can access the menu using the information display control.



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.

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

Main Menu

Trip computer 1
Trip computer 2
Information
Settings

Information Displays

Trip computer 1		
Dist to empty		
Trip Odometer		
Trip Timer		
Average Fuel	Ford EcoMode	Gear Shifting
		Anticipation
		Speed
		Information
Outside Temp.		
Digital Speedo		
All Values ¹		

¹ This feature is seen on high level clusters.

Note: Trip 2 information is the same as Trip 1 information.

Information
Driver Alert
AdBlue® level
Engine Hours
Engine Hours
Trailer Brake
MyKey
MyKey Info
System Check

Information Displays

Settings				
Driver Assist	Traction Ctrl			
	Auto Exh.Clean			
	Collision Warn	High Sensitivity		
		Normal Sensitivity		
		Low Sensitivity		
		Off		
	Driver Alert			
	Hill Start Assist			
	Tire Monitor			
	Trailer Brake	Electric		
		Elec.-Hydraulic		
	Lane Keeping	Sensitivity	Normal	
			High	
Intensity		High		
		Normal		
		Low		
Lighting	Rain Light			
	Dimming	Auto		
		Manual		
		Set	Set Dimming	
	Hdlamp Delay	Manual		
		10 seconds		
		20 seconds		
		40 seconds		
		60 seconds		
		120 seconds		

Information Displays

Settings		
Display	Navigation info	
	Language	Choose your applicable setting
	Distance	Choose your applicable setting
	Temperature	Choose your applicable setting
Chimes	Information	
	Warning	
Convenience	Compass	Display
		Calibrate
	Set Zone	Choose setting
	Locks	Autolock
		Autounlock
		Global Unlock
		Custom Lock
	Wipers	Rain Sensing
MyKey	Create MyKey	Create MyKey
	Traction Ctrl	Always On
		User selectable
	Max Speed	Max Speed 80mph
		Off
	Speed Warning	45 mph
		55 mph
		65 mph
		Off
	Volume Limiter	
	Clear MyKeys	Clear MyKey

Information Displays

System Check

All active warnings will display first if applicable. The system check menu may appear different based upon equipment options and current vehicle status. Use the up and down arrow buttons to scroll through the list. See **Information Messages** (page 87).

TRIP COMPUTER

Resetting the Trip Computer

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

All Values

Indicates all the respective trip, distance, time and average fuel consumption information.

Average Fuel Consumption

Indicates the average fuel consumption since the function was last reset.

Distance to Empty

Indicates the approximate distance your vehicle will travel on the fuel remaining in the tank. Changes in driving pattern may cause the value to vary.

Outside Air Temperature

Shows the outside air temperature.

Trip Odometer

Registers the distance traveled of individual journeys.

Trip Timer

Registers the elapsed time of individual journeys or the total time since the function was last reset.

Digital Speedometer

Provides a digital display of the current vehicle speed.

PERSONALIZED SETTINGS

Measure Units

You can choose personalized settings using the information display control on the steering wheel. See **Information Displays** (page 82).

To swap between imperial and metric units, scroll to:

Message	Action and Description
Display	Press the OK button.
Measure unit	Choose your applicable setting. Press the OK button. Swapping between imperial and metric units will affect the following displays: • Average fuel consumption. • Distance to empty. • Odometer.

Information Displays

Message	Action and Description
	• Outside temperature units. • Trip odometer. • Digital Speedometer.

INFORMATION MESSAGES



E130248

Press the **OK** button to acknowledge and remove some messages from the information display.

You need to confirm certain messages before you can access the menus. The information display will automatically remove other messages after a short period of time.

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



The message indicator illuminates to supplement some messages. The message indicator will be red or amber depending on the severity of the relevant system condition. The message indicator will remain on until a system repair is completed.

A system-specific symbol with a message indicator may supplement some messages.

Airbag

Message	Description and Action
Airbag fault Service now	The system has detected a fault that requires service.

Information Displays

Battery and Charging System

Message	Description and Action
Electrical system over-voltage Stop safely	Stop your vehicle as soon as it is safe to do so and switch the ignition off. The system has detected a fault that requires service.
Battery low See manual	Switch off all unnecessary electrical systems and devices. The system has detected a fault that requires service.

Diesel Exhaust Fluid Level

Message	Description and Action
DEF level low Range XXX mi Refill now	Indicates the approximate distance remaining before the diesel exhaust fluid tank will be empty. Refill the diesel exhaust fluid tank as soon as possible.
DEF level empty YY MPH max in XXX mi	Indicates the approximate distance remaining before the diesel exhaust fluid tank will be empty and when it will restrict your vehicle speed. Refill the diesel exhaust fluid tank as soon as possible.
DEF level empty Speed limited to YY MPH	Indicates that the diesel exhaust fluid tank is empty and that your vehicle speed is being restricted. Refill the diesel exhaust fluid tank as soon as possible.
DEF level empty YY MPH max Upon restart	Indicates that the diesel exhaust fluid tank is empty and that your vehicle speed will be restricted when you restart your vehicle. Refill the diesel exhaust fluid tank as soon as possible.
DEF level empty Engine idled soon	Indicates that the diesel exhaust fluid tank is empty and that the engine will soon be restricted to idle operation.
DEF level empty Engine idled See manual	Indicates that the diesel exhaust fluid tank is empty and that the engine is restricted to idle operation.

Note: When filling the diesel exhaust fluid tank from empty, there may be a short period before the increased diesel exhaust fluid level is registered. The system must register the increased diesel exhaust fluid level before your vehicle will return to full power.

Information Displays

Diesel Exhaust Fluid System Malfunction

Message	Description and Action
DEF fault YY MPH max in XXXX mi	Indicates that your vehicle speed will soon be restricted. The system has detected a fault that requires service.
DEF fault Speed limited to YY MPH	Indicates that your vehicle speed is restricted. The system has detected a fault that requires service.
DEF fault Engine idled soon	Indicates that the engine will soon be restricted to idle operation. The system has detected a fault that requires service.
DEF fault Engine idled See manual	Indicates that the engine is restricted to idle operation. The system has detected a fault that requires service.
DEF level empty YY MPH max Upon restart	Indicates that your vehicle speed will be restricted when you restart your vehicle. The system has detected a fault that requires service.

Door Open

Message	Description and Action
Driver door ajar	Stop your vehicle as soon as it is safe to do so and close the door.
Driver side rear door ajar	Stop your vehicle as soon as it is safe to do so and close the door.
Passenger door ajar	Stop your vehicle as soon as it is safe to do so and close the door.
Passenger side rear door ajar	Stop your vehicle as soon as it is safe to do so and close the door.
Hood open	Stop your vehicle as soon as it is safe to do so and close the hood.
Rear load compartment door ajar	Stop your vehicle as soon as it is safe to do so and close the door.
Emergency rear door ajar	Stop your vehicle as soon as it is safe to do so and close the door.

Information Displays

Engine

Message	Description and Action
Engine fault Service now	The system has detected a fault that requires service.
High engine temperature Stop safely	Stop your vehicle as soon as it is safe to do so, allow the engine to cool and then check the coolant level. If the warning remains on when you have checked the coolant level, the system has detected a fault that requires service. See Engine Coolant Check (page 214).

Lighting

Message	Description and Action
Brake lamp Bulb fault	Indicates that a brake lamp bulb has burned out. See Maintenance (page 207).
Low beam Bulb fault	Indicates that a low beam headlamp bulb has burned out. See Maintenance (page 207).
Headlamp fault Service required	The system has detected a fault that requires service.

Maintenance

Message	Description and Action
Oil change required	The engine oil has exceeded the service time or distance limit. Renew the engine oil and oil filter as soon as possible. See Engine Oil Check (page 212).
Brake fluid level low Service now	The system has detected a fault that requires service. See Brake Fluid Check (page 218).
Washer fluid level low	Refill the washer fluid reservoir as soon as possible. See Washer Fluid Check (page 218).

Parking Aid

Message	Description and Action
Parking aid fault Service required	The system has detected a fault that requires service. See Parking Aid (page 146).

Information Displays

Parking Brake

Message	Description and Action
Park brake applied	The parking brake is applied and your vehicle speed is above 3 mph (5 km/h). If the warning remains on when you have released the parking brake, the system has detected a fault that requires service.

Starting System

Message	Description and Action
Press brake to start	Press the brake pedal before you start the engine.
Cranking time exceeded	Indicates that the engine has failed to start.

Tire Pressure Monitoring System

Message	Description and Action
Low Tire Pressure	The tire pressure is low in one or more tires, check the tire pressures. See Tire Pressure Monitoring System (page 260).
Tire Pressure Monitor Fault	The system has detected a fault that requires service.
Tire Pressure Sensor Fault	The system has detected a fault that requires service or the spare tire is in use. See Tire Pressure Monitoring System (page 260).

Water in Fuel

Message	Description and Action
Water detected in fuel Service required	Drain off the water immediately. See Draining the Fuel Filter Water Trap (page 218).

Climate Control

PRINCIPLE OF OPERATION

Outside Air

Keep the air intakes in front of the windshield free from obstruction (such as snow or leaves) to allow the climate control system to function effectively.

Recirculated Air

WARNING



Prolonged use of recirculated air may cause the windows to mist up. If the windows mist up, follow the settings for demisting the windshield.

The air currently in the passenger compartment recirculates. Outside air does not enter your vehicle.

Heating

Heating performance depends on the temperature of the engine coolant.

General Information on Controlling the Interior Climate

Fully close all the windows.

Warming the Interior

Direct the air toward your feet. In cold or humid weather conditions, direct some of the air toward the windshield and the door windows.

Cooling the Interior

Direct the air toward your face.

Air Conditioning

The system directs air through the evaporator for cooling. The evaporator extracts humidity from the air to help keep the windows free of mist. The system directs the resulting condensation to the outside of your vehicle, which may cause a small pool to form under your vehicle. This is normal.

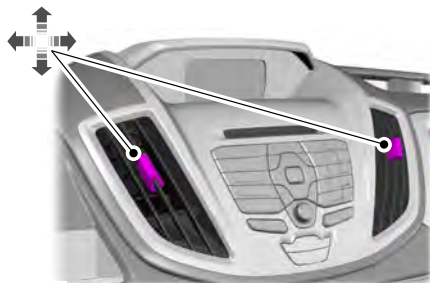
Note: The air conditioning operates only when the temperature is above 39°F (4°C).

Note: When you use air conditioning, your vehicle uses more fuel.

AIR VENTS

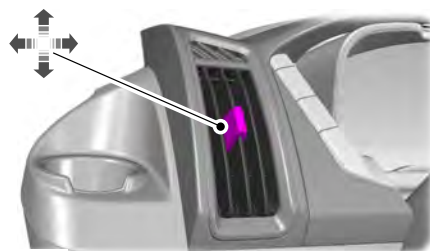
To close a vent, slide the airflow direction adjuster down.

Center Air Vents



E169287

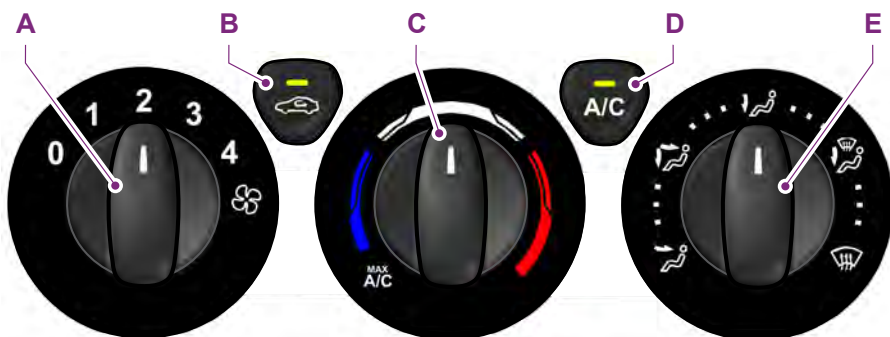
Side Air Vent



E169288

Climate Control

MANUAL CLIMATE CONTROL



E147011

- A **Fan speed control:** Controls the volume of air circulated in your vehicle. Adjust to select the desired fan speed or switch off. If you switch the fan off, the windshield may fog up.
- B **Recirculated air:** Press the button to switch between outside air and recirculated air. When you select recirculated air, the button illuminates and the air currently in the passenger compartment recirculates. This can reduce the time needed to cool the interior and reduce unwanted odors from entering your vehicle.
- C **Temperature control:** Controls the temperature of the air circulated in your vehicle. Adjust to select the desired temperature. If you select **MAX A/C**, the system distributes recirculated air through the instrument panel air vents. This mode is more economical and efficient than normal air conditioning. Turn the temperature control to maximum heat to turn the auxiliary heater on
- D **Air conditioning:** Press the button to switch the air conditioning on or off. To improve air conditioning when starting your vehicle, drive with the windows open for two to three minutes.
- E **Air distribution control:** Adjust to select the desired air distribution.



Select to distribute air through the instrument panel air vents.



Select to distribute air through the footwell air vents.



Select to distribute air through the instrument panel air vents and footwell air vents.



Select to distribute air through the windshield air vents and footwell air vents.

Climate Control



Select to distribute air through the windshield air vents. You can also use this setting to defog or clear the windshield of a thin covering of ice. You can also increase the temperature and fan speed to improve clearing.

HINTS ON CONTROLLING THE INTERIOR CLIMATE

General Hints

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

Note: *A small amount of air may be felt 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: *Keep the air intakes in front of the windshield free from obstruction (such as snow or leaves) to allow the climate control system to function effectively.*

Note: *To reduce fogging of the windshield during humid weather, adjust the air distribution control to the windshield air vents position. Increase the temperature and fan speed and press the A/C button to improve clearing, if required.*

Heating the Interior Quickly

- Adjust the fan speed to the highest speed setting.
- Adjust the temperature control to the highest setting.
- Adjust the air distribution control to the footwell air vents position.

Recommended Settings for Heating

- Adjust the fan speed to the second speed setting.
- Adjust the temperature control to the midway point of the hot settings.
- Adjust the air distribution control to the footwell and windshield air vents position.

Cooling the Interior Quickly

- Adjust the fan speed to the highest speed setting.
- Adjust the temperature control to the **MAX A/C** position.
- Adjust the air distribution control to the instrument panel air vents position.

Recommended Settings for Cooling

- Adjust the fan speed to the second speed setting.
- Adjust the temperature control to the midway point of the cold settings.
- Adjust the air distribution control to the instrument panel air vents position.

Vehicle Stationary for Extended Periods During Extreme High Ambient Temperatures

- Apply the parking brake.
- Move the transmission selector lever to position **P** or neutral.
- Adjust the temperature control to the **MAX A/C** position.
- Adjust the fan speed to the lowest speed setting.

Climate Control

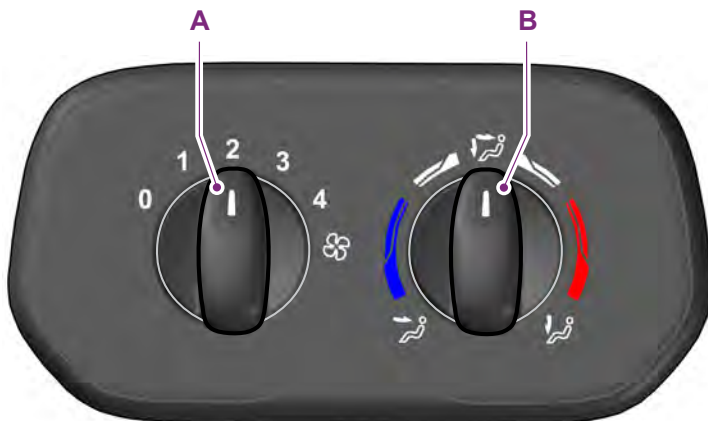
Side Window Defogging in Cold Weather

- Adjust the air distribution control to the instrument panel and windshield air vents positions.
- Press the **A/C** button.
- Adjust the temperature control to the desired setting.
- Adjust the fan speed to the highest setting.
- Direct the instrument panel side air vents toward the side windows.
- Close the instrument panel vents.

Maximum Cooling Performance in Instrument Panel or Instrument Panel and Footwell Positions

- Adjust the temperature control to the lowest setting.
- Press the **A/C** and recirculated air buttons.
- Adjust the fan speed to the highest setting initially and then adjust it to suit the desired comfort level.

REAR PASSENGER CLIMATE CONTROLS



E175829

- A Fan speed control:** Adjusts the volume of air circulated in the vehicle.
- B Temperature and air distribution control:** Controls the temperature of the air circulated in your vehicle. Adjust to select the desired temperature and distribution. Cool air distributes through the top air vents and warm air distributes through the rear floor vents.

Note: Switch the air conditioning on to cool the air through the rear air vents.

HEATED WINDOWS AND MIRRORS

Heated Rear Window (If Equipped)



The heated rear window button is located on the instrument panel. Press the button to clear the heated rear window of thin ice and fog. Press the button again to switch the heated rear window off. It will turn off automatically after a short period of time.

Note: *Make sure that the engine is running before switching the heated rear window on.*

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

Heated Exterior Mirrors



The heated exterior mirrors will clear the mirror glass of thin ice and fog. They will turn off automatically after a short period of time.

Note: *Do not use razor blades or sharp objects to remove ice from the mirror glass or attempt to adjust the mirror glass when it is frozen in place. The vehicle warranty does not cover damage to the mirror glass or mirror assembly.*

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

Note: *On vehicles without a heated exterior mirror switch, they will turn on automatically when you switch the heated rear window on.*

Seats

SITTING IN THE CORRECT POSITION

WARNINGS



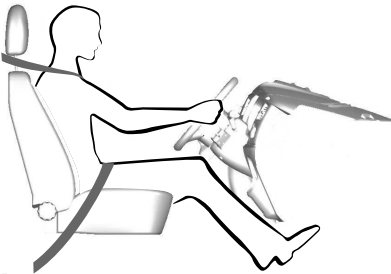
Do not recline the seat backrest too far as this can cause the occupant to slide under the safety belt, resulting in serious injury in the event of a crash.



Sitting improperly, out of position or with the seat backrest reclined too far, can result in serious injury or death in the event of a crash. Always sit upright against your seat backrest, with your feet on the floor.



Do not place objects higher than the seat backrest to reduce the risk of serious injury in the event of a crash or during heavy braking.



E68595

When you use them properly, the seat, head restraint, safety belt 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 more than 30 degrees.
- 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 inches (25 centimeters) 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 safety belt 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

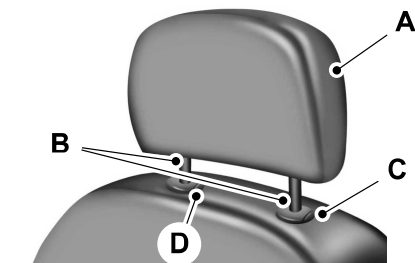
WARNING



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

Seats

The head restraint consists of:



- A Energy absorbing head restraint.
- B Steel stems.
- C Guide sleeve adjust and unlock button.
- D Guide sleeve unlock and remove button.

Adjusting the Head Restraint

WARNING



Adjust the head restraints for all passengers before you drive your vehicle. This will help minimize the risk of neck injury in the event of a crash. Do not adjust the head restraints when your vehicle is moving.

Note: Adjust the seat backrest to an upright driving position before adjusting the head restraint. Adjust the head restraint so that the top of it is level with the top of your head and as far forward as possible.

Raising the Head Restraint

Lift the head restraint up.

Lowering the Head Restraint

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

Removing the Head Restraint

WARNING



Do not remove the head restraint from an occupied seat.

1. Lift the head restraint up until it reaches its highest position.
2. Press and hold buttons C and D.
3. Remove the head restraint.

Installing the Head Restraint

WARNING



Install head restraints correctly to help minimize the risk of neck injury in the event of a crash.

1. Align the steel stems into the guide sleeves.
2. Press and hold buttons C and D.
3. Push the head restraint down.

MANUAL SEATS

Moving the Seat Backward or Forward

WARNINGS



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.



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

Seats

WARNINGS



Make sure the driver seat fully locks into place by rocking it backward and forward.



E177638

1. Lift the handle.
2. Move the seat backward or forward to attain the desired position.
3. Release the handle.

Note: The driver seat has removable stop bolts on the track to enable access to the vehicle battery. See **Changing the 12V Battery** (page 221).

Adjusting the Lumbar Support



E146386

1. Rotate the handle clockwise or counter clockwise to attain the desired lumbar support.

Recline Adjustment

WARNINGS

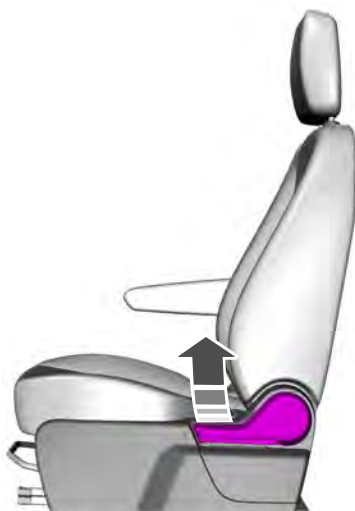


Do not adjust the driver seat backrest when your vehicle is moving. This may result in sudden seat movement, causing the loss of control of your vehicle.



Do not adjust the recliner from inside your vehicle if the seat is unoccupied. The seat back may move suddenly and cause personal injury.

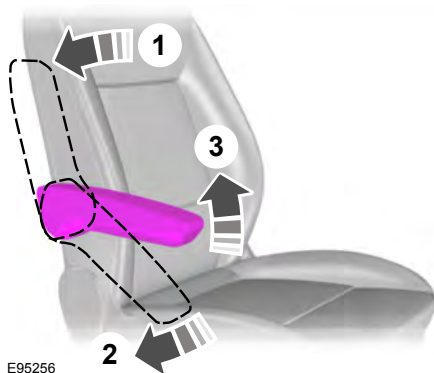
Seats



E175474

1. Lift the handle.
2. Move the seat back backward or forward to attain the desired position.
3. Release the handle.

Adjusting the Armrest



E95256

1. Raise the armrest fully.
2. Lower the armrest to the stowed position.
3. Raise the armrest to attain the desired position.

POWER SEATS (If Equipped)

WARNINGS



Do not adjust the driver seat when your vehicle is moving.



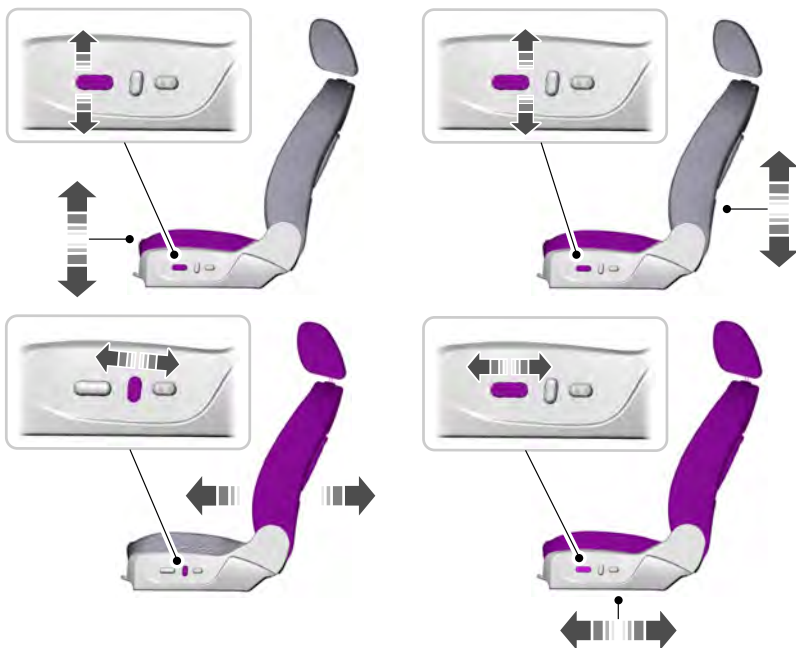
Do not place cargo or any objects behind the seat backrest before returning it to the original position.



The driver seat has removable stop bolts on the track to enable access to the vehicle battery. See

Changing the 12V Battery (page 221).

Seats



E138647

Seats

Power Lumbar



E138648

REAR SEATS

WARNINGS

 Do not use the bench seats as a bed when your vehicle is moving. Failure to follow this warning could result in serious personal injury or death.

 Do not place objects on a folded seat. Hard objects may become projectiles in a crash or sudden stop, which may increase the risk of serious personal injury.

Note: Rear seat arrangements vary depending on the vehicle.

Recline Adjustment

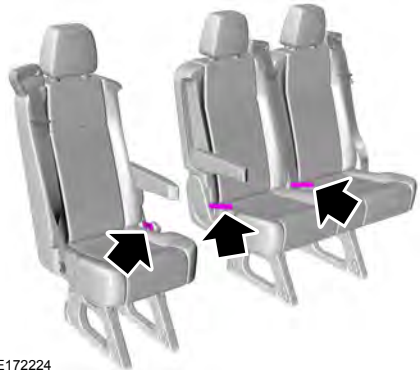
WARNINGS

 When reclining the seat backrest forward and backward, take care not to get your hands caught between the seat backrest and the frame, catches or mechanism. Failure to take care may result in personal injury.

WARNINGS

 Make sure that any cargo or objects are not trapped behind the seat backrest. Make sure the safety belts are not trapped in any way when unfolding the seat backrest up. Failure of an occupant to be able to use a trapped safety belt increases the risk of serious personal injury or death.

 Make sure that the seat backrest is fully engaged in its catch. A seat backrest which is not fully engaged in its catch could move in the event of an accident. This may result in serious personal injury or death.



E172224

With the seat occupied, pull the lever or strap to recline or raise the seat backrest.

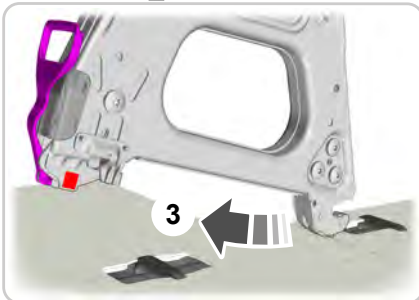
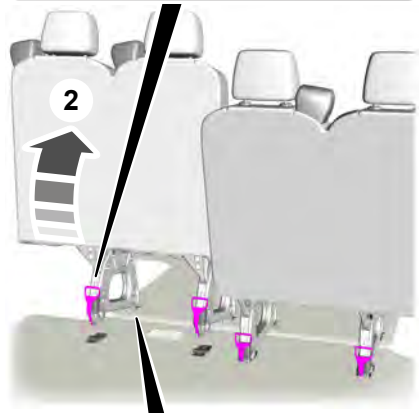
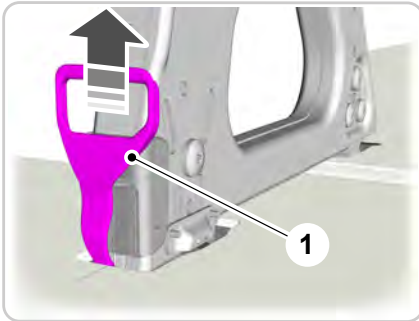
Removing Seats (Passenger Vehicles)

WARNINGS

 Seats can weigh up to 176 lb (80 kg). Do not attempt to lift or carry a seat on your own.

 Do not use the release handles to lift or carry the seat.

Seats



E173870

1. Pull the release handles up.

2. Tilt the seat forward to release the seat frame rear catches.
3. Pull the seat backward to release the seat frame front catches.
4. Remove the seat.

Note: Two persons must carry out this procedure.

Note: You can only remove seats that have integral release handles.

Note: The seat back does not fold forward.

Installing the Seats

WARNINGS



Make sure that the floor catches are free from foreign material before installing the seats.



Make sure that you securely fasten the seat catches when installing.

Check the latches are correctly engaged by checking the red latch indicators.

Seats



E178062

1. Align the seat frame front catches.
2. Push the seat forward to engage the seat frame front catches.
3. Align the seat frame rear catches.
4. Allow the seat to drop under its own weight for the last 6-8 in (15-20 cm).

Auxiliary Power Points

12 Volt DC Power Point

WARNINGS



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.



Do not use a power point for operating a cigar lighter. Incorrect use of the power points 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 will damage the power point and 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



E185878

Power points may be in the following locations:

- On the instrument panel.
- Inside the cargo area.

AC Power Point

WARNING



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

Note: The power point will turn off when the ignition is switched off or the battery voltage drops below 11 volts.

Use the power point for powering electric devices that require up to 150 watts. It is under the parking brake lever.

Auxiliary Power Points



E143941

When the indicator light on the power point is:

- On: The power point is working, the ignition is on and a device is plugged in.
- Off: The power point is off, the ignition is off or no device is plugged in.
- Flashing: The power point is in fault mode.

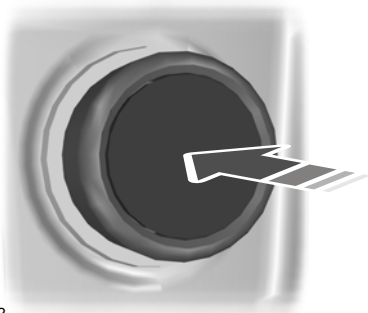
The power outlet temporarily turns off power when in fault mode if the device exceeds the 150 watt limit. Unplug your device and switch the ignition off. Switch the ignition back on, but do not plug your device back in. Let the system cool off and switch the ignition off to reset the fault mode. Switch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

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

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

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

CIGAR LIGHTER (If Equipped)



E103382

Press the element in to use the cigar lighter. It will pop out automatically.

Note: *Do not press and hold the cigar lighter element.*

Storage Compartments

CUP HOLDERS

WARNINGS



Do not place hot drinks in the cup holders when your vehicle is moving.



Make sure that cups placed in the holders do not obstruct your vision while driving.

OVERHEAD CONSOLE

Overhead Storage Compartments

Overhead Console

WARNING



Do not place heavy objects in the overhead console. Heavy objects may become projectiles in a crash or sudden stop and may increase the risk of serious injury.



E171160



E189357

BOTTLE HOLDER

WARNING



Do not place glass objects in the bottle holder.

Starting and Stopping the Engine

GENERAL INFORMATION

WARNINGS



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.



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.



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.



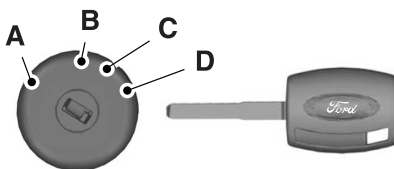
If you smell exhaust fumes inside your vehicle, have your vehicle checked by an authorized dealer immediately. Do not drive your vehicle if you smell exhaust fumes.

If you disconnect the battery, your vehicle may exhibit some unusual driving characteristics for approximately 5 miles (8 kilometers) 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

Before starting the engine 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).

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: Do not touch the accelerator pedal.

1. Fully press the brake pedal.
2. Turn the key to the on position to switch the ignition on.
3. Turn the key to the start position to start your vehicle. Release the key when the engine starts.

Note: You can only operate the starter for a limited period of time, for example 10 seconds. The number of start attempts is limited to approximately six. If you exceed this limit, the system will not allow you to try again until a period of time has elapsed, for example 30 minutes.

Engine Idle Speed after Starting

The speed at which the engine idles immediately after starting will adjust automatically to minimize vehicle emissions and maximize cabin comfort and fuel economy.

The idle speed will vary depending on certain factors. These include vehicle component and ambient temperatures as well as electrical and climate system demands.

Cold or Hot Engine

If the engine does not start within 10 seconds, wait for a short period and try again.

If the engine does not start after three attempts, wait 10 seconds and follow the flooded engine procedure.

If you have difficulty starting the engine when the temperature is below -13°F (-25°C), press the accelerator pedal to the mid-way point of its travel and try again.

Flooded Engine

1. Shift into park (P).
2. Fully depress the accelerator pedal and hold it there.
3. Start the engine.

Note: If the engine does not start, repeat the cold or hot engine procedure.

STARTING A DIESEL ENGINE

WARNINGS



Do not use starting fluid, for example ether, in the air intake system (see air filter decal). Starting fluids could cause immediate explosive damage to the engine. Failure to follow this warning could result in fire, serious personal injury or death.



Do not add gasoline, gasohol, alcohol or Kerosene to diesel fuel. This action creates a serious fire hazard and will result in poor engine performance. Engine damage caused by the use of incorrect fuel is not covered by the vehicle warranty.

Starting and Stopping the Engine

Note: Avoid shutting the engine down after an extensive idling period. Drive your vehicle for several miles with the engine at normal operating temperatures under a moderate load.

Engine Glow Plugs



The powertrain control and glow plug control modules operate the glow plug system.

The glow plug control module using the engine coolant temperature, barometric pressure sensor and the environmental temperature sensor will determine how long the glow plugs stay energized. The required time for the glow plugs to remain energized will decrease as the engine coolant temperature, barometric pressure and the environmental temperature increases.

When you switch the ignition on, the glow plug indicator lamp will illuminate if glow plug heat is necessary as a starting aid. Wait until the glow plug indicator lamp turns off before starting the engine. The lamp should always momentarily illuminate when the engine is cold and you switch the ignition on.

Cold Weather Operation

In cold weather below 32°F (0°C), the engine may slowly increase to a higher idle speed if left idling in park (P). As the engine warms-up, the engine sound level decreases due to the activation of powertrain control module controlled speed reduction features.

It is recommended that the engine block heater be used for starting when the temperature is -9°F (-23°C) or colder. See **Engine Block Heater** (page 112).

Note: Idling in cold weather does not heat the engine to its normal operating temperature. Long periods of idling, especially in cold weather, can cause a buildup of deposits which can cause engine damage.

Starting a Cold or Hot Engine

Note: Do not press the accelerator pedal.

1. Fully depress the brake pedal.
2. Turn the key to the on position and wait until the glow plug indicator lamp turns off.

Note: Do not press the accelerator pedal.

3. Turn the key to the start position to start the engine.
4. Release the key.

Note: You may need to crank the engine for up to 10 seconds when the outside air temperature is 5°F (-15°C) or below.

Note: Engine power may be reduced for 15 seconds when the engine oil temperature is -9°F (-23°C) or below. This is to allow the turbocharger to be lubricated.

Note: If the engine fails to start after a number of attempts, the system will not allow you to operate the starter for a short period of time, for example 30 minutes.

Failure to Start

If the engine does not crank with the key turned to the start position while the brake pedal is fully depressed, do the following:

1. Switch the ignition off.

Note: Make sure the parking brake is fully applied.

2. Release the brake pedal.
3. Fully depress the brake pedal.
4. Turn the key to the on position and wait until the glow plug indicator lamp turns off.

Starting and Stopping the Engine

Note: Do not press the accelerator pedal.

5. Turn the key to the start position to start the engine.
6. Release the key.

DIESEL PARTICULATE FILTER

The filter forms part of the emissions reduction system on your vehicle. It filters harmful diesel particulates (soot) from the exhaust gas.

Regeneration

WARNING



Do not park or idle your vehicle over dry leaves, dry grass or other combustible materials. The regeneration process creates very high exhaust gas temperatures and the exhaust will radiate a considerable amount of heat during and after regeneration and after you have switched the engine off. This is a potential fire hazard.

Note: Avoid running out of fuel.

Note: During regeneration at low speed or engine idle, you may smell a hot metallic odor and could notice a clicking metallic sound. This is due to the high temperatures reached during regeneration and is normal.

Note: Changes in the engine or exhaust sound may be heard during the regeneration process.

Note: After you have switched your engine off the fans may continue to run for a short period of time.

The diesel particulate filter on your vehicle requires periodic regeneration to maintain its correct function. Your vehicle will carry out this process automatically.

If your journeys meet one of the following conditions:

- You drive only short distances.
- You frequently switch the ignition on and off.
- Your journeys contain a high level of acceleration and deceleration.

You must carry out occasional trips with the following conditions to assist the regeneration process:

- Drive your vehicle in more favorable conditions, which you will find at higher vehicle speeds in normal driving, on a main road or freeway for a minimum of 20 minutes. This drive may include short stops that will not affect the regeneration process.
- Avoid prolonged idling and always observe speed limits and road conditions.
- Do not switch the ignition off.
- Select a suitable gear to ideally maintain engine speed between 1500 and 3000 RPM.

SWITCHING OFF THE ENGINE

Vehicles With a Turbocharger

WARNING



Do not switch the engine off when it is running at high speed. If you do, the turbocharger will continue running after the engine oil pressure has dropped to zero. This will lead to premature turbocharger bearing wear.

Release the accelerator pedal. Wait until the engine has reached idle speed and then switch it off.

Starting and Stopping the Engine

ENGINE BLOCK HEATER (if

Equipped)

WARNINGS



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



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



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

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

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

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

- Use a 16-gauge outdoor extension cord that is product certified by Underwriter's Laboratory (UL) or Canadian Standards Association (CSA). This extension cord must be suitable for use outdoors, in cold

temperatures, and be clearly marked Suitable for Use with Outdoor Appliances. Do not use an indoor extension cord outdoors. This could result in an electric shock or become a fire hazard.

- Use as short an extension cord as possible.
- Do not use multiple extension cords.
- Make sure that when in operation, the extension cord plug and heater cord plug connections are free and clear of water. This could cause an electric shock or fire.
- 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.

Fuel and Refueling

SAFETY PRECAUTIONS

WARNINGS



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



The fuel system may be under pressure. If you hear a hissing sound near the fuel filler door (Easy Fuel capless fuel system), do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.



Automotive fuels can cause serious injury or death if misused or mishandled.



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.



Fuel ethanol and gasoline may contain benzene, which is a cancer-causing agent.



When refueling always shut the engine off and never allow sparks or open flames near the filler neck. Never smoke or use a cell phone while refueling. Fuel vapor is extremely hazardous under certain conditions. Avoid inhaling excess fumes.

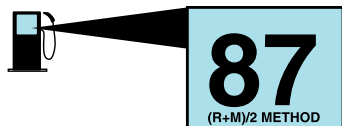
Observe the following guidelines when handling automotive fuel:

- Extinguish all smoking materials and any open flames before refueling your vehicle.
- Always turn off the vehicle before refueling.
- Automotive fuels can be harmful or fatal if swallowed. Fuel such as gasoline is highly toxic and if swallowed can cause death or permanent injury. If fuel is swallowed, call a physician immediately, even if no symptoms are immediately apparent. The toxic effects of fuel may not be visible for hours.
- Avoid inhaling fuel vapors. Inhaling too much fuel vapor of any kind 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 liquid in your eyes. If fuel is splashed in the eyes, 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 also be harmful if absorbed through the skin. If fuel is splashed on the skin, clothing or both, promptly remove contaminated clothing and wash skin thoroughly with soap and water. Repeated or prolonged skin contact with fuel liquid or vapor causes skin irritation.
- Be particularly careful if you are taking "Antabuse" or other forms of disulfiram for the treatment of alcoholism. Breathing gasoline vapors, or skin contact could cause an adverse reaction. In sensitive individuals, serious personal injury or sickness may result. If fuel is splashed on the skin, promptly wash skin thoroughly with soap and water. Consult a physician immediately if you experience an adverse reaction.

Fuel and Refueling

FUEL QUALITY - GASOLINE

Choosing the Right Fuel



E161513

We recommend regular unleaded gasoline with a pump (R+M)/2 octane rating of 87. Some fuel stations offer fuels posted as regular unleaded gasoline with an octane rating below 87, particularly in high altitude areas. We do not recommend fuels with an octane rating below 87.

For vehicles with EcoBoost engines, to provide improved performance, we recommend premium fuel for severe duty usage such as trailer tow.

Do not use any fuel other than those recommended because they could lead to engine damage that may not be covered by the vehicle Warranty.

Note: *Use of any fuel other than those recommended can impair the emission control system and cause a loss of vehicle performance.*

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.

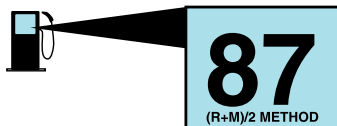
- Fuels containing the octane booster additive, methylcyclopentadienyl manganese tricarbonyl (MMT).
- Leaded fuel (using leaded fuel is prohibited by law).

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.

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.

FUEL QUALITY - E85

Choosing the Right Fuel - Flex Fuel Vehicles



E161513

Use 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). Flex fuel vehicles have a yellow fuel filler cap or the fuel tank filler pipe will have a yellow housing or bezel. Some fuel stations offer fuels posted as regular unleaded gasoline with an octane rating below 87, particularly in high altitude areas. Fuels with octane levels below 87 are not recommended.

Fuel and Refueling

Do not use any fuel other than those recommended because they could lead to engine damage that may not be covered by the vehicle Warranty.

Note: *Use of any fuel other than those recommended can impair the emission control system and cause a loss of vehicle performance.*

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.

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.

FUEL QUALITY - DIESEL

Fuel Requirements - Choosing the Right Fuel: Vehicles Operated Where Ultra-Low Sulfur Diesel Fuel is Required (United States/Canada/Puerto Rico/U.S. Virgin Islands and Other Locales)

WARNINGS



Only use Ultra-Low Sulfur Diesel fuel (ULSD) containing a maximum of 15 ppm sulfur and up to 20% biodiesel (B20). These fuels should meet the diesel specifications defined by American Society for Testing and Materials (ASTM) D975 for diesel and by ASTM D7467 for B6-B20 blends, or an equivalent local market specification.



Do not mix diesel with oil, kerosene, paraffin, gasoline or other liquids to diesel. This can cause damage to the fuel system.



Do not use home heating oil, agricultural fuel, raw fats, oils, waste cooking greases, biodiesel fuels greater than 20% or any diesel fuel not intended for highway use.



The vehicle warranty will not cover damage caused by using an improper type of fuel or fuel additive.

Note: *Do not blend used engine oil with diesel fuel under any circumstances. Blending used oil with the fuel will significantly increase your vehicle's exhaust emissions and reduce engine life due to increased internal wear.*

Fuel and Refueling

Fuel Requirements - Choosing The Right Fuel: Vehicles Operated Where Ultra-Low Sulfur Diesel Fuel Is Not Required

Use only a diesel engine configured for use with high sulfur diesel fuel in markets with diesel fuel that has sulfur content greater than 15 ppm. Using low sulfur diesel fuel (16–500 ppm) or high sulfur diesel fuel (greater than 500 ppm) in a diesel engine designed to use only ultra-low sulfur diesel fuel may result in damage to engine emission control devices and the after-treatment system, potentially rendering your vehicle inoperable.

For the engine to operate reliably on low sulfur or high sulfur diesel fuel, the engine must be a factory built high sulfur engine (available as a dealer order option for select markets) or an ultra-low sulfur diesel fuel configured engine that has been retrofitted for high sulfur diesel fuel using Ford Motor Company dealer service parts. Failure to use retrofit components other than those available through your authorized dealer will result in coolant system damage, engine overheating, selective catalyst reduction system or diesel particulate filter damage and possible base engine damage.

Vehicles with engines configured for use with high sulfur diesel fuel are only available for sale in countries where ultra-low sulfur diesel fuel is generally not available or mandated by the government. Vehicles originally sold in a ultra-low sulfur diesel fuel market that are subsequently exported to non ultra-low sulfur diesel fuel markets will need to be retrofitted (at the customer's expense using Ford authorized dealer service parts) in order to be reliably operated on non ultra-low sulfur diesel fuel.

Biodiesel

You may operate your vehicle on diesel fuels containing up to 20% biodiesel, also known as B20.

Biodiesel fuel is a chemically converted product from renewable fuel sources, such as vegetable oils, animal fats and waste cooking greases.

To help achieve acceptable engine performance and durability when using biodiesel in your vehicle:

- Confirm the biodiesel content of the fuel to be B20 (20% biodiesel) or less by checking the label on the fuel pump.
- Only use biodiesel fuel of good quality that complies with applicable industry standards ASTM D975 for diesel and ASTM D7467 for B6-B20 blends.
- Follow the recommended service maintenance intervals. See **Normal Scheduled Maintenance** (page 366).
- Do not store biodiesel fuel in the fuel tank for more than one month.
- Do not use raw oils, fats or waste cooking greases.

System Messages

Message	Action and Description
Fuel Pressure Low	Consider changing brands or reducing biodiesel content if you have cold temperature fuel gelling issues or this message frequently appears.

Use of biodiesel in concentrations greater than 20% may cause damage to your vehicle, including engine and/or exhaust after-treatment hardware (exhaust catalyst and particulate filter) failures. When using biodiesel in concentrations greater than 20%, this can also cause fuel

Fuel and Refueling

filter restrictions that may result in a lack of power or damage to fuel system components, including fuel pump and fuel injector failures. See **Special Operating Conditions Scheduled Maintenance** (page 368).

Look for a label on the fuel pump to confirm the amount of biodiesel contained in a diesel fuel. Biodiesel fuel blends with greater than 5% must be labeled.

Biodiesel content is often indicated with the letter B followed by the percent of biodiesel in the fuel. For example, B20 indicates a fuel containing 20% biodiesel. Ask the service station attendant to confirm the biodiesel content of a diesel fuel if you do not see a label on the fuel pump.

Biodiesel fuels degrade more easily than diesel fuels not containing biodiesel and should not be stored in the fuel tank for more than one month. If you plan to park or store your vehicle for more than one month, then you should empty your vehicle fuel tank of biodiesel fuel. You should fill the tank with a pure petroleum-based diesel fuel and run your vehicle for a minimum of 30 minutes.

If you intend to store your vehicle for more than two months, we recommend that you seek advice from an authorized dealer.

Note: *Degraded or oxidized biodiesel can damage fuel system seals and plastics and corrode steel parts.*

Fuel companies adjust diesel fuel formulations for cold temperatures. Diesel fuel which has not been correctly formulated for cold ambient temperatures may gel and block the fuel filters. An indication that the fuel filters are blocked is the engine starts, stalls after a short time and then does not restart. If you have been using biodiesel, you may need to use a fuel with lower biodiesel content or discontinue using biodiesel.

Do not use alcohol based fuel additives to correct fuel gelling. This may damage the fuel injectors or fuel system. This may also degrade vehicle performance and could lead to fuel system damage that may not be covered by the vehicle Warranty. Only use an anti-gel and performance improvement product. We recommend Motorcraft® Anti-Gel & Performance Improver.

Diesel Fuel Additives

It should not be necessary to add any aftermarket additives to your fuel if you use a high quality diesel fuel that conforms to ASTM industry specifications. Aftermarket additives can damage the fuel injector system or engine.

Use Motorcraft Cetane Booster or an equivalent cetane booster additive if you suspect fuel has low cetane. Use Motorcraft Anti-Gel & Performance Improver or an equivalent additive if there is fuel gelling during cold weather.

Do not use alcohol-based additives to improve cetane quality, to prevent fuel gelling or any other use. The use of alcohol additives may result in damage to the fuel injectors and system.

The vehicle Warranty may not cover repairs needed to correct the effects of using any aftermarket product that does not meet Ford specifications.

FUEL FILLER FUNNEL LOCATION

The fuel filler funnel is located in the under seat storage compartment.

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. If your vehicle is out of fuel and on a steep slope, more fuel may be required.
- 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.

Filling a Portable Fuel Container

Use the following guidelines to avoid electrostatic charge build-up 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

WARNINGS



Do not insert the nozzle of a fuel container or an aftermarket funnel into the fuel system filler neck. This may damage the fuel system filler neck or its seal and cause fuel to run onto the ground.



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.

WARNINGS



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 plastic funnel included with your vehicle. See **Fuel Filler Funnel Location** (page 117).

Note: Do not use aftermarket funnels as they will 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 tank filler door until it engages and remove the fuel tank filler cap.

Note: Capless fuel systems do not have a fuel tank filler cap.

2. Fully insert the plastic funnel into the fuel tank filler pipe opening.



E157452

3. Add fuel to your vehicle from the fuel container.
4. Remove the plastic funnel from the fuel tank filler pipe opening.

Fuel and Refueling

5. Replace the fuel tank filler cap and close the fuel tank filler door.
6. Clean the plastic funnel and place it back in your vehicle or properly dispose of it.

Note: Extra funnels can be purchased from an authorized dealer if you choose to dispose of the funnel.

CATALYTIC CONVERTER

WARNING



Do not park or idle your vehicle over dry leaves, dry grass or other combustible materials. The exhaust will radiate a considerable amount of heat during use, and after you have switched the engine off. This is a potential fire hazard.

Driving with a Catalytic Converter

WARNINGS



Avoid running out of fuel.



Do not crank the engine for long periods.



Do not run the engine when a spark plug lead is disconnected.



Do not push-start or tow-start your vehicle. Use booster cables. See **Jump Starting the Vehicle** (page 182).



Do not switch the ignition off when driving.

SELECTIVE CATALYTIC REDUCTION SYSTEM

WARNINGS



You must refill the diesel exhaust fluid tank when it is low. If it is not refilled, vehicle speed will be limited to 50 mph (80 km/h). Drive with caution and refill the fluid tank as soon as possible.



If the diesel exhaust fluid becomes contaminated your vehicle will be limited to idle speed operation. Replace the fluid immediately.



Tampering with or disabling the selective catalytic reduction system will result in severe vehicle performance limitation. Vehicle speed will be limited to 5 mph (8 km/h).

Your vehicle has a selective catalytic reduction system to help reduce exhaust emission levels by injecting diesel exhaust fluid into the exhaust system.

Diesel Exhaust Fluid Level

For the system to operate correctly, you must maintain the diesel exhaust fluid level.



A warning lamp will illuminate when the diesel exhaust fluid level is low and needs to be refilled. See **Warning Lamps and Indicators** (page 78).

The warning lamp will illuminate approximately 500 mi (800 km) before the diesel exhaust fluid tank is empty. Refill the tank as soon as possible.

Note: If the warning lamp illuminates when your vehicle is moving, and the diesel exhaust fluid is at a sufficient level, this indicates a system malfunction. Have your vehicle checked by an authorized dealer as soon as possible.

Fuel and Refueling

Continued driving without refilling the fluid will result in:

- Vehicle speed being limited. Prior to this occurring a message will appear in the information display.
- Further vehicle operation without refilling the diesel exhaust fluid will cause the engine to run at idle speed.

Note: You must add a minimum of 3.2 qt (3 L) for your vehicle to exit the run at idle speed mode.

Filling the Diesel Exhaust Fluid Tank

WARNINGS



Do not allow diesel exhaust fluid to come into contact with eyes, skin or clothing. Should the fluid come into contact with eyes, flush them with plenty of water and contact a physician. Clean affected skin with soap and water. If swallowed, drink plenty of water and contact a physician immediately.



Refill the diesel exhaust fluid tank in a well-ventilated area. When removing the tank cap or a diesel exhaust fluid container cap, ammonia vapor may escape. Ammonia vapor is an irritant to the eyes, skin and mucous membranes. Inhaling ammonia vapor can cause burning to the eyes, throat and nose resulting in watering eyes or severe coughing.

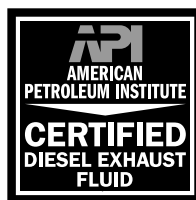


Do not put diesel exhaust fluid in the fuel tank. This can cause engine damage not covered by the vehicle warranty.



E172245

The diesel exhaust fluid tank filler neck is located below the fuel filler neck and has a blue cap. Fill the tank using a fluid pump at a diesel exhaust fluid filling station or a diesel exhaust fluid container. We recommend Motorcraft® diesel exhaust fluid, the containers are spill proof and stop the flow of fluid when the tank is full. The capacity of the diesel exhaust fluid tank is 21 liters.



E163354

You must only use diesel exhaust fluid that is certified by the American Petroleum Institute (API).

Note: You must open the fuel filler door before you can open the diesel exhaust fluid filler door.

Fuel and Refueling

Note: Immediately wash off any diesel exhaust fluid that has spilled on to a painted surface with soapy water.

Filling the Diesel Exhaust Fluid Tank Using a Fuel Station Pump

Filling the diesel exhaust fluid tank using a pump is similar to a refuelling your vehicle. The diesel exhaust fluid pump nozzle will shut off automatically when the tank is full.

Note: Some filling stations utilize a magnetic mechanism in the pump nozzle that may prevent refilling the diesel exhaust fluid tank. To overcome this issue you will need to locate another filling station or use a refill container.

Filling the Diesel Exhaust Fluid Tank Using a Container

The following procedure applies to Motorcraft diesel exhaust fluid or similar fluid containers. Always follow the manufacturer's instructions.

1. Remove the diesel exhaust fluid container cap. Place the spout on to the container and tighten it until you feel a strong resistance.
2. Remove the diesel exhaust fluid tank filler cap.
3. Insert the spout in to the filler neck until the seal on the spout seats on to the filler neck. Pour the fluid in to the tank. When the tank is full the fluid will stop flowing automatically.
4. Return the container to the vertical position slightly below the diesel exhaust fluid filler neck. Allow any fluid remaining in the spout to drain back in to the container.
5. Remove the spout from the diesel exhaust fluid filler neck. Replace the diesel exhaust fluid tank cap.

6. Remove the spout from the diesel exhaust fluid container and replace the cap.

Note: If there is diesel exhaust fluid left in the container retain it for later use. The spout is re-useable. Wash the spout with clean water prior to storage. Do not use the diesel exhaust fluid spout with any other fluid.

Filling the Diesel Exhaust Fluid Tank in Cold Climates

Diesel exhaust fluid may freeze if the ambient temperature is below 12°F (-11°C). Your vehicle has a preheating system which allows diesel exhaust fluid to operate below 12°F (-11°C). If you do not use your vehicle for an extended period when the ambient temperature is below 12°F (-11°C), the fluid in the tank may freeze. If the tank is overfilled and the fluid freezes it may damage the tank. This is not covered by the vehicle warranty.

Contaminated Diesel Exhaust Fluid or Inoperative Selective Catalytic Reduction System



If the system becomes contaminated or inoperative, the diesel exhaust fluid warning lamp will illuminate and a message will appear in the information display.

Continued driving without replacing the fluid or not having the system repaired will result in:

- Vehicle speed being limited. Prior to this occurring a message will appear in the information display.
- Further vehicle operation without replacing contaminated diesel exhaust fluid will cause the engine to run at idle speed.

Fuel and Refueling

Note: If the vehicle speed becomes limited or the engine will only run at idle speed, normal vehicle operation will not resume until you have the system repaired. To service a contaminated or inoperative system, see an authorized dealer.

Note: You must add a minimum of 3.2 qt (3 L) for your vehicle to exit the run at idle speed mode.

Diesel Exhaust Fluid Guidelines

- Do not put diesel exhaust fluid in the vehicle fuel tank.
- Do not overfill the diesel exhaust fluid tank.
- Do not dilute diesel exhaust fluid with water or any other liquid.
- Do not re-use a diesel exhaust fluid container.

- Do not store in direct sunlight.
- Store at temperatures between 23°F (-5°C) and 68°F (20°C).
- Do not store a diesel exhaust fluid container in your vehicle.
- Diesel exhaust fluid is non-flammable, non-toxic, colorless and water-soluble.

Approximate Diesel Exhaust Fluid Usage

The chart below illustrates the approximate diesel exhaust fluid usage for the given distances traveled under various driving conditions. Usage may vary depending on:

- Driving style.
- Towing a trailer.
- Vehicle load.
- Engine idling time.

Driving conditions	Approximate diesel exhaust fluid usage per tank mi (km)
Primary trailer tow, aggressive driving	1,100–4,100 (1,770–6,600)
City drive	4,100–6,500 (6,600–10,460)
Steady highway drive	6,500–10,500 (10,460–16,900)

REFUELING

WARNINGS

 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.

 Do not attempt to refuel using a fuel pump nozzle that does not fit through both closing flaps of the capless fuel filler neck.

WARNINGS

 Wait at least 10 seconds before removing the fuel pump nozzle to allow any residual fuel to drain into the fuel tank.

 Stop refueling after the fuel pump nozzle automatically shuts off for the second time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

 Do not remove the fuel pump nozzle from its fully inserted position when refueling.

Fuel and Refueling

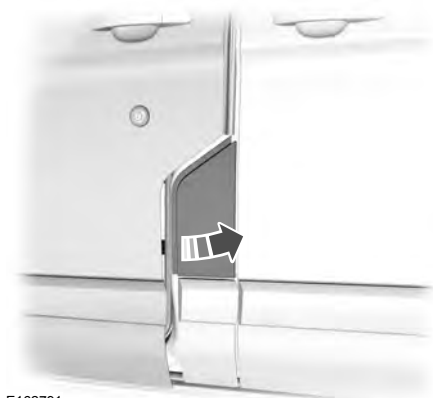
WARNINGS



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

Do not attempt to start the engine if you have refueled the fuel tank with the incorrect fuel. This can cause damage not covered by the vehicle warranty. Have your vehicle checked by an authorized dealer immediately.

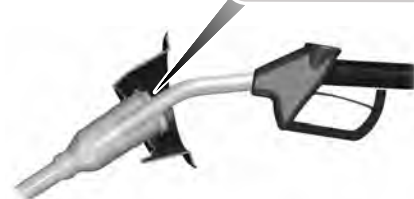
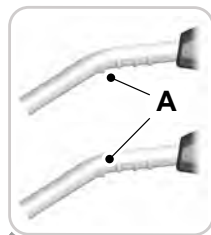
If you use a high pressure spray to wash your vehicle, only spray the fuel tank filler door briefly from a distance not less than 8 in (200 mm).



E162791

Note: You must unlock your vehicle and open the left-hand front door before opening and closing the fuel tank filler door.

1. Apply the parking brake and switch the ignition off.
2. Fully open the fuel tank filler door until it engages.

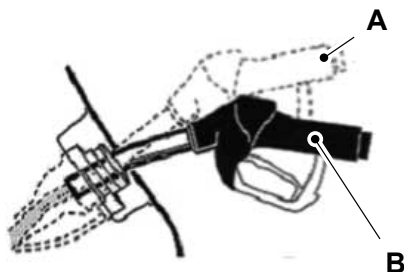


E139202

Note: When you insert the correct size fuel pump nozzle a spring loaded inhibitor will open. This helps to avoid refueling with the incorrect fuel.

Note: The capless fuel system accommodates standard non-commercial fuel pump nozzle sizes up to 1 in (25 mm) diameter.

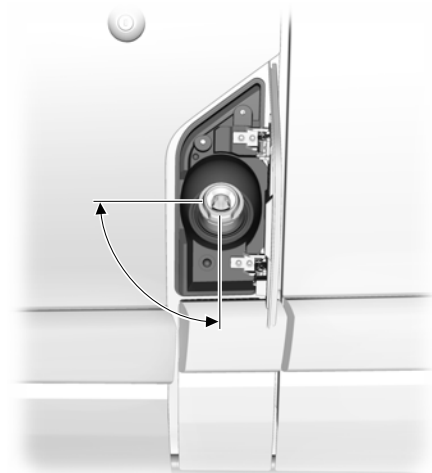
3. Insert the fuel pump nozzle up to the first notch on the nozzle A. Keep it resting on the cover of the fuel tank filler pipe opening.



E139203

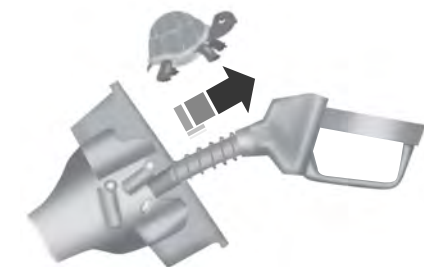
Fuel and Refueling

4. Hold the fuel pump nozzle in position B when refueling. Holding the fuel pump nozzle in position A may affect the flow of fuel and shut off the fuel pump nozzle before the fuel tank is full.



E162792

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



E154765

6. Slightly raise the fuel pump nozzle and remove it slowly.
7. Close the fuel tank filler door.

Easy Fuel™ Capless Fuel System

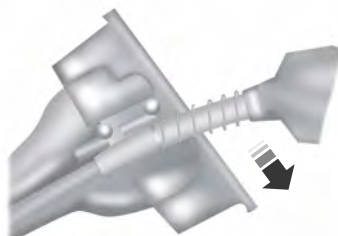
WARNING



The fuel system may be under pressure. If you hear a hissing sound near the fuel filler door, do not refuel until the sound stops. Otherwise, fuel may spray out, which could cause serious personal injury.

When fueling your vehicle:

1. Apply the parking brake and switch the ignition off.
2. Open the fuel filler door.



E156032

3. Slowly insert the fuel filler nozzle fully into the fuel system, and leave the nozzle fully inserted to open both doors until you are done pumping. Hold handle higher during insertion for easier access.



E154765

Fuel and Refueling

4. After you are done pumping fuel, slowly remove the fuel filler nozzle, allow about five to ten seconds after pumping fuel before removing the fuel filler nozzle. This allows residual fuel to drain back into the fuel tank and not spill onto the vehicle.

Note: A fuel spillage concern may occur if overfilling the fuel tank. Do not overfill the tank to the point that the fuel is able to bypass the fuel filler nozzle. The overfilled fuel may run down the drain located below and in front of the fuel filler door.

If the fuel fill inlet was not properly closed, a service engine warning lamp may appear on the instrument cluster.

At the next opportunity, do the following:

1. Safely pull off the road.
2. Put the vehicle in **P** (Park) and turn the ignition off.
3. Open the fuel filler door and remove any visible debris from the fuel fill opening.
4. Insert either the fuel fill nozzle or the fuel fill funnel provided with the vehicle several times to allow the inlet to close properly. This will dislodge any debris preventing the inlet from sealing.

If this action corrects the problem, the warning lamp may not reset immediately. It may take several driving cycles for the warning lamp to turn off. A driving cycle consists of an engine start-up (after four or more hours with the engine off) followed by city or highway driving.

FUEL CONSUMPTION

Empty reserve is the amount of fuel remaining in the tank after the fuel gauge indicates empty. The amount of usable fuel in the empty reserve varies and should not be relied upon to increase driving range.

- The usable capacity of the fuel tank is the amount of fuel that can be added into the tank after the gauge indicates empty.
- The advertised capacity is the total fuel tank size. See **Capacities and Specifications** (page 274). It is the combined usable capacity plus the empty reserve.
- Due to the empty reserve, you may not be able to refuel the full amount of the advertised capacity of the fuel tank even when the fuel gauge reads empty.

Filling the 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 two automatic click-offs when filling.

Results are most accurate when the filling method is consistent.

Calculating Fuel Economy

Do not measure fuel economy during the first 1,000 mi (1,600 km) of driving (this is your engine's break-in period). A more accurate measurement is obtained after 2,000 mi (3,200 km) to 3,000 mi (4,800 km). Also, fuel expense, frequency of fill ups or fuel gauge readings are not accurate ways to measure fuel economy.

1. Fill the fuel tank completely and record the initial odometer reading.
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.

Fuel and Refueling

4. Subtract your initial odometer reading from the current odometer reading.

To calculate L/100 km (liters per 100 kilometers) fuel consumption, multiply the liters used by 100, then divide by kilometers traveled. To calculate MPG (miles per gallon) fuel consumption, divide miles traveled by gallons used.

Keep a record for at least one month and record the type of driving (city or highway). This provides an accurate estimate of your vehicle's fuel economy under current driving conditions. Keeping records during summer and winter will show how temperature impacts fuel economy.

Conditions

- Heavily loading your vehicle reduces fuel economy.
- Carrying unnecessary weight in your vehicle may reduce fuel economy.
- Adding certain accessories to your vehicle such as bug deflectors, rollbars or light bars, running boards and ski racks may reduce fuel economy.
- 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.

EMISSION CONTROL SYSTEM

WARNINGS



Do not park, idle, or drive your vehicle in dry grass or other dry ground cover.

The emission system heats up the engine compartment and exhaust system, which can start a fire.

WARNINGS



An incorrectly operating or damaged exhaust system may result in entry of harmful and potentially lethal fumes into the passenger compartment. If you smell exhaust fumes inside your vehicle, have an authorized dealer inspect your vehicle immediately. Do not drive if you smell exhaust fumes.

Your vehicle has various emission control components and a catalytic converter that will enable your vehicle to comply with applicable exhaust emission standards.

To make sure that the catalytic converter and other emission control components continue to work correctly:

- Use only the specified fuel listed.
- Avoid running out of fuel.
- Do not switch the ignition off when your vehicle is moving, especially at high speeds.
- Have the items listed in scheduled maintenance information carried out according to the specified schedule.

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 parts 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 the equivalent to genuine Ford Motor Company parts in performance and durability.

Illumination of any of the following warning lamps, indicators or vehicle symptoms could indicate that the emission control system is not working correctly.

- Coolant temperature warning lamp.
- Charging system warning lamp.
- Service engine soon indicator.

Fuel and Refueling

- Fluid leaks.
- Strange odors.
- Excessive exhaust smoke.
- Loss of engine power.

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 see your warranty information for complete details.

On-Board Diagnostics (OBD-II)

Your vehicle has an on-board diagnostics system (OBD-II) that monitors the engine's emission control system. This system protects the environment by making sure that your vehicle continues to meet government emission standards. The OBD-II system also assists an authorized dealer in correctly 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 of temporary malfunctions are:

- The vehicle has run out of fuel.
- Poor fuel quality or water in the fuel.
- The engine may misfire or run rough.
- The fuel filler door may not have been closed correctly. See **Refueling** (page 122).
- 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, correctly closing the fuel filler door 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 not illuminate. A driving cycle consists of a cold engine startup followed by mixed city or 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/Maintenance (I/M) Testing

Some state/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, you may need to have your vehicle serviced. See **On-Board Diagnostics (OBD-II)**.

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, your vehicle is not ready for I/M testing.

Fuel and Refueling

If the vehicle engine or transmission has just been serviced or the battery has recently run out of charge or been replaced, the OBD-II system may indicate that your vehicle is not ready for I/M testing. To determine if the vehicle is ready for I/M testing, switch the ignition on for 15 seconds without cranking the engine. If the service engine soon indicator flashes on and off eight times, it means that your vehicle is not ready for I/M testing; if the service engine soon indicator illuminates and remains on, it means that your vehicle is ready for I/M testing.

The OBD-II system monitors the emission control system during normal driving. A complete check may take several days.

If your vehicle is not ready for I/M testing, you may need to:

- Drive on an expressway or highway for a steady 15 minutes, followed by 20 minutes of stop-and-go driving with at least four 30-second idle periods.
- Allow your vehicle to sit for at least eight hours without starting the engine. Then complete the above driving cycle.

The engine must warm up to its normal operating temperature. Do not switch the ignition off until the above driving cycle is complete. If your vehicle is still not ready for I/M testing, you will have to repeat the above driving cycle.

Diesel Exhaust System: Oxidation Catalyst And Diesel Particulate Filter System

Your vehicle is fitted with a diesel particulate filter. The diesel particulate filter is an inline filter in the exhaust system that reduces carbon emissions by trapping exhaust particles before they reach the tailpipe. The diesel particulate filter looks similar to a traditional exhaust catalyst, except it is larger, and is part of the exhaust system under the vehicle. The filter couples

to a diesel oxidation catalyst that reduces the amount of harmful exhaust emitted from the tailpipe. As soot gathers in the system it begins to restrict the filter. The soot that gathers inside the filter is cleaned in two different ways, passive regeneration and active regeneration. Both methods occur automatically and require no actions from the driver. During either one of these regeneration methods, you may notice a change in exhaust tone. At certain times, the information display will display various messages related to the diesel particulate filter.

Diesel Particulate Filter Maintenance

Failure to carry out active or operator commanded regeneration when advised could result in a clogged diesel particulate filter. If the diesel particulate filter fills beyond the regeneration threshold, your vehicle will disable the ability for active and operator commanded regeneration. This could result in irreversible damage to the diesel particulate filter requiring replacement that the Ford Warranty may not cover. If your vehicle is not fitted with operator commanded regeneration, check with an authorized dealer for availability.

Passive Regeneration

During passive regeneration, the exhaust system temperature and constituents automatically clean the diesel particulate filter, or reduce the soot level, by oxidizing the soot. Cleaning occurs naturally during normal engine operating conditions, at varying levels depending on driving conditions.

Active Regeneration

Once the diesel particulate filter is full of exhaust particles, the engine control module will command the exhaust system to clean the diesel particulate filter through a process called active regeneration. Active regeneration requires the engine computer

Fuel and Refueling

to raise the exhaust temperature to eliminate the particles. During cleaning, the particles convert to harmless gasses. Once cleaned the diesel particulate filter will then be ready to continue trapping exhaust particles.

The regeneration process operates more efficiently when you drive your vehicle at a steady speed of 30 mph (48 km/h) or above for approximately 20 minutes to complete the process. The frequency and duration of regeneration will fluctuate by how you drive your vehicle, outside air temperature, and altitude. For most driving, regeneration frequency will vary from

100 mi (160 km) - 310 mi (500 km) between occurrences and each occurrence will last between 10 and 20 minutes. You can usually reduce the duration of regeneration if you maintain a constant speed above 30 mph (48 km/h).

When the engine control module detects that the diesel particulate filter is nearly full of particulates, and you are not driving your vehicle in a manner to allow effective automatic cleaning, the information display will show the following messages as a reminder for you to drive in a manner to clean the diesel particulate filter. If you drive your vehicle in a manner to allow effective automatic cleaning, the information display will show a cleaning exhaust filter message, which is the normal regeneration process.

System Messages

Message	Action and Description
Exhaust filter overloaded Drive to clean	You must maintain the diesel particulate filter for it to continue to function correctly. Drive in a manner to clean the diesel particulate filter. Do not disregard a system maintenance message. The Ford Warranty may not cover damage caused to your vehicle as a result of disregarding these messages.
Exhaust filter at limit Clean now	You must maintain the diesel particulate filter for it to continue to function correctly. Drive in a manner to clean the diesel particulate filter. Do not disregard a system maintenance message. The Ford Warranty may not cover damage caused to your vehicle as a result of disregarding these messages.

You can also choose operator commanded regeneration to clean the exhaust system at this point. See the following **Operator Commanded Regeneration**.

If you are not able to drive in a manner that allows effective automatic cleaning or you choose to carry out regeneration of the diesel particulate filter while the engine is idling, then operator commanded regeneration must be carried out.

Fuel and Refueling

Operator Commanded Regeneration (If Equipped)

If your vehicle is operated with significant stationary operation, low speed drive cycles less than 25 mph (40 km/h), short drive cycles, drive time less than 15 minutes or the vehicle does not fully warm up, passive and active regeneration may not sufficiently clean the diesel particulate filter system. Operator commanded regeneration allows you to manually start diesel particulate filter cleaning while the engine is idling. If you are not sure whether your vehicle is fitted with this feature, contact an authorized dealer.

When to Carry Out Operator Commanded Regeneration

Use the operator commanded regeneration feature when the following message appears in the information display and:

- You are not able to drive in a manner that allows effective automatic cleaning.
- You choose to manually start cleaning the diesel particulate filter while the engine is idling.

System Message

Message	Action and Description
Exhaust filter overloaded Drive to clean	You must maintain the diesel particulate filter for it to continue to function correctly. Do not disregard a system maintenance message. The Ford Warranty may not cover damage caused to your vehicle as a result of disregarding this message.

Operator Commanded Regeneration Precautions and Safe Exhaust Position

WARNING



Failure to comply with the following instructions for operator commanded regeneration may result in fire, serious injury, death or property damage.

Before you start operator commanded regeneration, do the following:

- You must park your vehicle outside of any structure.
- Move the gearshift lever to park **(P)** with the parking brake set on stable, level ground.

- Your vehicle must be 9.8 ft (3 m) - 16.4 ft (5 m) away from any obstructions and must be away from materials that can easily combust or melt, for example, paper, leaves, petroleum products, fuels, plastics and other dry organic material.
- Make sure there is a minimum of 3.2 gal (12 L) of fuel in the fuel tank.
- Make sure all fluids are at the correct levels.
- Make sure that the louvers located at the tip of the exhaust are clear of any obstructions as they are used to introduce fresh air into the tailpipe to cool the exhaust gas as it leaves.

Fuel and Refueling

How to Start Operator Commanded Regeneration

WARNING



Stay clear of exhaust tip during regeneration. You or others can be burned.

Note: You cannot use the operator commanded regeneration until the diesel particulate filter load percentage has reached 100 percent. The diesel particulate filter load percentage will fluctuate up and down when driving your vehicle due to active and passive regenerations.

Note: During the use of operator commanded regeneration, you may observe a light amount of white smoke. This is normal.



You cannot use the operator commanded regeneration if the service engine soon light is illuminated.

Using the Information Display

You can start operator commanded regeneration using the information display. See (page 82).

To start operator commanded regeneration, run the engine at normal operating temperature and scroll to:

Message	Action and Description
Settings	Press the OK button.
Exhaust Filter Full OK = Cleaning	Press the OK button.
Select one of the following:	
Exhaust Filter Full	Press the OK button and then follow the prompts regarding exhaust position as needed to initiate operator commanded regeneration. Be sure to understand each prompt. If you are not sure what is being asked by each prompt, contact an authorized dealer. The display will confirm the operation has started and when it has finished.
Exhaust Filter Overloaded	Press the OK button and then follow the prompts regarding exhaust position as needed to initiate operator commanded regeneration. Be sure to understand each prompt. If you are not sure what is being asked by each prompt, contact an authorized dealer. The display will confirm the operation has started and when it has finished.

Fuel and Refueling

If the diesel particulate filter is near or at saturation, a message requesting permission to initiate filter cleaning will display.

Message	Action and Description
Exhaust Filter At Limit	Press the OK button and then follow the prompts regarding exhaust position as needed to initiate operator commanded regeneration. Be sure to understand each prompt. If you are not sure what is being asked by each prompt, contact an authorized dealer. The display will confirm the operation has started and when it has finished.

Once operator commanded regeneration starts, engine rpm will rise to approximately 2,000 - 2,500 rpm and the cooling fan will increase speed; you will hear a change in audible sound due to the fan and engine speed increase.

It is not necessary to open the hood on the engine compartment. Once operator commanded regeneration is complete, the engine rpm and fan will return to normal idling. The exhaust system will remain very hot for several minutes even after

regeneration is complete. Do not reposition the vehicle over materials that could burn until the exhaust system has had sufficient time to cool. Depending on the amount of soot collected by the diesel particulate filter, ambient temperature, and altitude, operator commanded regeneration may last up to 30 minutes.



When the system is at the point of over saturation, the service engine soon light will illuminate and the following message will appear.

System Message

Message	Action and Description
Exhaust filter over limit Service now	You will not be able to allow cleaning. You must have your vehicle serviced by an authorized dealer.

Operator Commanded Regeneration with Automatic Regeneration Control (If Equipped)

If your vehicle is operated with significant stationary operation, low speed drive cycles less than 25 mph (40 km/h), short drive cycles, drive time less than 15 minutes or the vehicle does not fully warm up, passive and active regeneration may not

sufficiently clean the diesel particulate filter system. You can switch off automatic regeneration until better driving conditions are available, for example steady high driving. You can then switch automatic regeneration back on to clean the diesel particulate filter.

Fuel and Refueling

Switching the Automatic Regeneration Control On and Off

To switch the automatic regeneration control on and off, scroll to:

Message	Action and Description
Information	Press the OK button.
Driver Assist	Press the OK button.
Auto Exh.Clean	Uncheck the box to switch automatic regeneration off. Check the box to switch automatic regeneration on.
When you switch automatic regeneration off, one of the following warning messages may be displayed.	
Exhaust Filter Full Clean Soon	The diesel particulate filter is full and you should switch the automatic regeneration control on as soon as possible.
Exhaust Filter Overloaded Clean Now	The diesel particulate filter is overloaded you must switch the automatic regeneration control on as soon as possible.
Exhaust filter at limit Clean now	You must clean the diesel particulate filter immediately. Failing to do so would cause the diesel particulate filter to become blocked.

How to Interrupt or Cancel Operator Commanded Regeneration

If you need to cancel the operator commanded regeneration, press the brake pedal or switch the ignition off to stop the procedure. Depending on the amount of time you allowed the operator commanded regeneration to operate, soot may not have had sufficient time to be eliminated, but the exhaust system and exhaust gas may still be hot. If you shut your vehicle off during operator commanded regeneration, you will notice turbo flutter. This is a normal consequence caused by shutting off a diesel engine during boosted operation and is considered normal.

Filter Service and Maintenance

Over time, a slight amount of ash will build up in the diesel particulate filter, which is not removed during the regeneration process. The filter may need to be removed for ash cleaning at approximately 119,900 mi (193,000 km) or greater, actual mileage can vary greatly depending upon engine and vehicle operating conditions. The filter may need to be replaced at approximately 248,500 mi (400,000 km) depending upon vehicle operating conditions.

In both cases, the engine control system will set a service light to inform you to have your vehicle checked by an authorized dealer.

If there are any issues with the diesel particulate filter, the engine control system will turn on a service light to inform you to have your vehicle checked by an authorized dealer.

Fuel and Refueling



Powertrain fault indicator.



Service engine soon indicator.

Resonator and Tailpipe Assembly Maintenance

WARNINGS



Failure to maintain the functional holes, in the tailpipe section of the exhaust, clean and free of debris or foreign material may result in the holes becoming blocked or plugged. Do not modify or remove the tail-pipe section. Blocked or plugged holes or removal/modification of the system could result in elevated exhaust gas temperatures which may result in vehicle/property damage or personal injury.



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 diesel oxidation catalytic converter and/or the diesel particulate filter (DPF). The diesel oxidation catalytic converter and/or the DPF heats up to a high temperature after only a short period of engine operation and can stay hot even after the engine is turned off. Failure to follow these instructions may result in personal injury.

Note: Additions of aftermarket devices or modifications to the exhaust system can reduce the effectiveness of the exhaust system as well as cause damage to the exhaust system or engine. These actions may also affect your vehicle's warranty. See the Warranty Guide for more information.

The diesel resonator tail-pipe assembly is a uniquely functioning device that accompanies the diesel particulate filter assembly. The tail-pipe assembly serves multiple functions. First, it serves as an acoustic device to attenuate exhaust noise. Second, it provides an exit path for the exhaust from your vehicle. It also helps control the temperature of the exhaust during diesel particulate filter regeneration events. The visible holes in each leg of the twin tip and the holes under the shield just inboard of the right rear tire(s) are functional. You need to keep the holes clear of mud, debris or foreign material to maintain proper function of the exhaust system. Clean and remove debris or foreign material if present as needed. Spraying with a hose during regular washing of your vehicle should help keep holes clean and clear of debris or foreign material.

Emission Control System Laws

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. Provide adequate insulation. Failure to follow these instructions may result in fire or personal injury.

In the U.S. federal law and certain state laws prohibit removing or rendering inoperative emission control system(s). Similar federal or provincial laws may apply in Canada. Ford recommends against any vehicle modification without determining applicable law.

Fuel and Refueling



Tampering with emissions control systems (including related sensors and the Diesel Exhaust Fluid (DEF) injection system) can result in reduced engine power and the illumination of the service engine soon light.

Tampering With a Noise Control System

Federal law prohibits the following acts:

- The removal or rendering inoperative by any person other than for purposes of maintenance, repair or replacement of any device or element of design incorporated into any 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 such device or element of design has been removed or rendered inoperative by any person.

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's specifications.

The complexity of the diesel engine makes it so you are not encouraged to carry-out maintenance other than the services described in this Owner's Manual.

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.
- Incorrect fuel for climatic conditions.
- Incorrect engine oil viscosity for climatic conditions.

Note: *If these checks do not help you correct the concern, have your vehicle checked by an authorized dealer.*

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 lbs. (4,536 kg) GVWR (Gross Vehicle Weight Rating). 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 lbs. (4,536 kg) GVWR.

Transmission

AUTOMATIC TRANSMISSION

WARNINGS



Always set the parking brake fully and make sure you shift the gearshift lever to park (P). Switch the ignition off and remove the key whenever you leave your vehicle.



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

Understanding the Gearshift Lever Positions of the Automatic Transmission



E175317

T/H	Tow/Haul button
P	Park
R	Reverse
N	Neutral
D	Drive
M	Manual shifting

- + Manual upshift
- Manual downshift

Tow/Haul (T/H) (If Equipped)

Tow/Haul delays transmission upshift to reduce the frequency of transmission shifting.

The system provides engine braking in all forward gears when the gearshift lever is in drive (D). Engine braking helps you to slow and control your vehicle when descending a grade.

Depending on trailer load and driving conditions, the transmission may downshift when descending a grade. Downshifting will depend on the amount of vehicle braking applied.

Switching Tow/Haul On and Off



To activate tow/haul, press the button on the gearshift lever once. The TOW HAUL indicator light will illuminate in the instrument cluster.

To deactivate the tow haul feature and return to normal driving mode, press the button on the gearshift lever twice. The tow haul indicator lamp will deactivate. Tow haul will also deactivate when you power down your vehicle.

Park (P)

WARNINGS



Do not shift the gearshift lever to park (P) when your vehicle is moving. This can cause damage to the transmission not covered by the vehicle warranty, and can result in a crash or serious injury.

Transmission

WARNINGS



Apply the parking brake, shift the gearshift lever to park (P) and switch the ignition off before leaving your vehicle. Make sure that the gearshift lever fully latches into position.

When the gearshift lever is in this position, it will lock the transmission. The engine does not transmit power to the driven wheels. You can start the engine with the gearshift lever in this position.

Note: A warning tone will sound if you open the driver door and you have not shifted the gearshift lever to park (P).

Reverse (R)

WARNINGS



Do not shift the gearshift lever to reverse (R) when your vehicle is moving. This can cause damage to the transmission not covered by the vehicle warranty, and can result in a crash or serious injury.



Always come to a complete stop before shifting the gearshift lever out of reverse (R).

Shift the gearshift lever to reverse (R) to allow your vehicle to move backward.

Neutral (N)

When the gearshift lever is in this position, the transmission does not lock. The engine does not transmit power to the driven wheels. You can start the engine with the gearshift lever in this position.

Drive (D)

Shift the gearshift lever to drive (D) to allow your vehicle to move forward and shift automatically through the forward gears.

The transmission shifts to the appropriate gear for optimum performance based on ambient temperature, road gradient, vehicle load and your input.

Note: A shift will occur only when your vehicle speed and the engine speed are appropriate.

Note: You can temporarily override the selected gear by pressing the **+** or **-** buttons on the side of the gearshift lever.

Manual (M)

WARNING



Do not hold the **+** or **-** buttons permanently in.

Shift the gearshift lever to manual (M) to allow your vehicle to move forward and allow you to shift manually through the forward gears. Press the **+** or **-** buttons on the side of the gearshift lever to shift manually through the forward gears. The instrument cluster will display the selected gear, and a shift indicator arrow to assist optimum shifting.

- Press the **+** button to upshift.
- Press the **-** button to downshift.

You can skip gears by pressing a button repeatedly at short intervals.

Upshift at the recommended shift speeds according to the following chart:

Upshifts when accelerating (recommended for best fuel economy)	
Upshift from:	Vehicle speed mph (km/h):
1 - 2	15 (24)
2 - 3	25 (40)
3 - 4	40 (64)

Transmission

Upshifts when accelerating (recommended for best fuel economy)

Upshift from:	Vehicle speed mph (km/h):
4 - 5	45 (72)
5 - 6	50 (80)

Note: Engine damage may occur if you maintain an excessive engine speed without shifting.

Hints on Driving with an Automatic Transmission

WARNING



Do not idle the engine for long periods in drive (D) with the brakes applied.

Putting Your Vehicle in Gear

1. Start the engine.
2. Press the brake pedal.
3. Shift the gearshift lever to drive (D), reverse (R) or manual (M).
4. Release the parking brake.
5. Release the brake pedal and press the accelerator pedal.

Stopping Your Vehicle

1. Release the accelerator pedal and press the brake pedal.
2. Apply the parking brake.
3. Shift the gearshift lever to neutral (N) or park (P).
4. Switch the ignition off.

If Your Vehicle Gets Stuck In Mud or Snow

If your vehicle is stuck in mud or snow, shift between drive (D) and reverse (R) pressing lightly on the accelerator pedal in each gear. Stop between shifts in a steady pattern to rock your vehicle.

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

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

Brake-Shift Interlock

WARNINGS



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



This procedure requires you to shift the gearshift lever out of park (P) causing your vehicle to roll. Make sure you fully set the parking brake before attempting to shift the gearshift lever out of park (P).



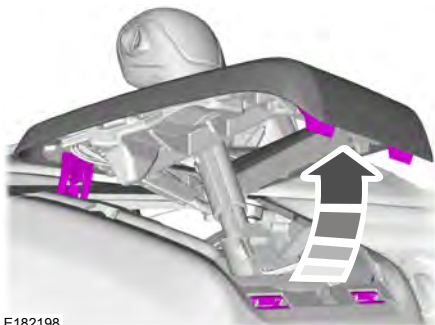
If you release the parking brake and the brake warning lamp remains illuminated, the brakes may not be working correctly. The system has detected a fault that requires service.

Your vehicle has a brake-shift interlock feature. This prevents you from shifting the gearshift lever from the park (P) position, unless the brake pedal is pressed.

In the event of an electrical malfunction, or if the vehicle battery has run out of charge, use the following procedure to shift the gearshift lever from the park (P) position.

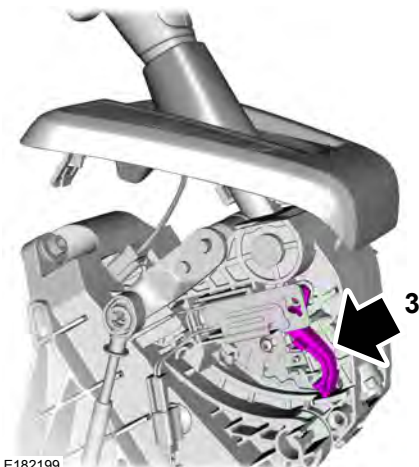
1. Apply the parking brake and switch the ignition off.

Transmission



E182198

2. Use a suitable tool, for example a screwdriver, to carefully remove the housing cover.



E182199

3. Locate the white lever, situated on the left hand side of the gearshift lever.



E174827

4. Move the white lever toward the rear of your vehicle.
5. Shift the gearshift lever out of park (P) and into neutral (N).
6. Replace the gearshift lever housing cover, apply the brake pedal, switch the ignition on and release the parking brake.

Note: See an authorized dealer as soon as possible.

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 Alloy Wheels** (page 237).

See Warning Lamps and Indicators (page 78).

BRAKE

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 gearshift lever 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 brake rapidly by measuring the rate at which you press the brake pedal. It provides maximum braking efficiency as long as you press the pedal, and can reduce stopping distances in critical situations.

Anti-lock Brake System

This system helps you maintain steering control during emergency stops by keeping the brakes from locking.



This lamp momentarily illuminates when you turn the ignition on. If the light does not illuminate during start up, remains on or flashes, the system may be disabled. Have the system checked by an authorized dealer.



If the system is disabled, normal braking is still effective. If the brake warning lamp illuminates when you release the parking brake, have the system checked by an authorized dealer.

HINTS ON DRIVING WITH ANTI-LOCK BRAKES

Note: When the system is operating, 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.

The anti-lock braking system will 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.

Brakes

PARKING BRAKE

Center Parking Brake



E172225

To apply the parking brake:

1. Press the foot brake pedal firmly.
2. Pull the parking brake lever up to its fullest extent.

To release the parking brake:

1. Press the foot brake pedal firmly.
2. Pull the parking brake lever up slightly.
3. Press the release button and push the parking brake lever down.

Note: If you park your vehicle facing uphill turn the steering wheel away from the curb.

Note: If you park your vehicle facing downhill turn the steering wheel toward the curb.

Note: Do not press the release button while pulling the parking brake lever up.

HILL START ASSIST - VEHICLES WITH: HILL START ASSIST

WARNINGS

 The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake. Failure to leave your vehicle securely parked may lead to a crash or injury. See **Parking Brake** (page 141).

 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.

 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.

Note: The system will not operate if the parking brake is applied.

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 will remain 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

developed sufficient drive 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.

Note: *The system will not operate if the gearshift lever is in neutral or the parking brake is applied.*

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.
2. If the sensors detect that your vehicle is on a slope, the system will activate automatically.
3. When you remove your foot from the brake pedal, your vehicle will remain on the slope without rolling away for approximately two to three seconds. This hold time will automatically be extended if you are in the process of driving off.
4. Drive off in the normal manner. The system will release 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 82).

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

WARNINGS



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.



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 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 systems applies higher brake forces.

The stability control system has several features built into it to help you maintain control of your vehicle:

Electronic Stability Control

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

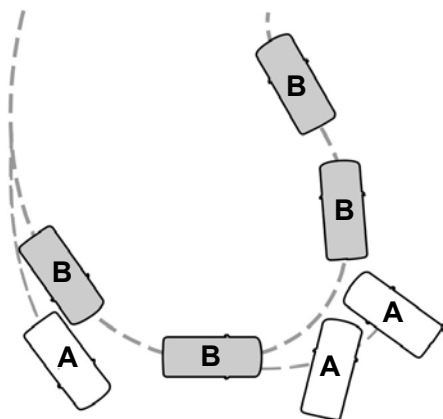
Roll Stability Control

The system enhances your vehicle's ability to prevent rollovers by detecting your vehicle's roll motion and the rate at which it changes by applying the brakes to one or more wheels individually.

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 143).

Stability Control



E72903

- A Vehicle without stability control skidding off its intended route.
- B Vehicle with stability control maintaining control on a slippery surface.

USING STABILITY CONTROL

The system automatically turns on each time you switch the ignition on.

You cannot switch the stability control and roll stability control systems off, but when you shift into reverse (R), the systems deactivate.

You can switch the traction control system off or on. See **Using Traction Control** (page 143).

Parking Aids (If Equipped)

PRINCIPLE OF OPERATION

WARNINGS



The system does not relieve you of your responsibility to drive with due care and attention.



If your vehicle has a non-Ford approved trailer tow module the system may not correctly detect objects.



The sensors may not detect objects in heavy rain or other conditions that cause disruptive reflections.



The sensors may not detect objects with surfaces that absorb ultrasonic waves.



The system does not detect objects that are moving away from your vehicle. They will only be detected shortly after they start to move toward your vehicle.



Take particular care when reversing with a tow ball arm or a rear fitted accessory. For example, a bicycle carrier. The rear parking aid will only indicate the approximate distance from the rear bumper to an object.



If you use a high pressure spray to wash your vehicle, only spray the sensors briefly from a distance not less than eight inches (20 centimeters).

Note: The outer sensors may detect the side walls of a garage. If the distance between the outer sensors and the side wall remains constant for three seconds, the alert will turn off. As you continue the inner sensors will detect objects directly behind your vehicle.

PARKING AID

WARNINGS



The parking aid system can only assist you to detect objects when your vehicle is moving at parking speeds. To help avoid personal injury you must take care when using the parking aid system.



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.



The system may not detect small or moving objects, particularly those close to the ground.

The system warns you of objects that are within the detection zone of the bumper areas. When you switch the ignition on, the system automatically turns on. The system becomes active when you shift into reverse (R) and the speed of your vehicle is 10 mph (16 km/h) or less.

Note: If your vehicle has a tow ball arm, switch the system off when you connect trailer lamps (or lighting boards) to the 13-pin socket through a Ford approved trailer tow module.

Note: Keep the sensors free from dirt, ice or snow. Do not clean with sharp objects.

Note: The system may emit false alerts if it detects a signal using the same frequency as the sensors or if your vehicle is fully loaded.

Parking Aids (If Equipped)



E130178

- A Rear detection zone: Up to 72 in (183 cm) from the rear bumper.

Note: Accessories that block the detection zone of the system may create false alerts.

Note: Keep the sensors free from snow, ice and large accumulations of dirt.

Note: If your vehicle sustains damage leaving the sensors misaligned, this will cause inaccurate measurements or false alerts.

A tone will sound in the following manner when objects are near the rear bumper:

- Objects detected by the rear sensors produce a low-pitched tone.
- An alert will only sound for three seconds if an object is further than 10 in (25 cm) from the side of your vehicle.

The system detects objects when you shift into reverse (R) and:

- Your vehicle is moving toward a stationary object at a speed of 3 mph (5 km/h) or less.
- Your vehicle is stationary but an object is approaching your vehicle at a speed of 3 mph (5 km/h) or less.
- Your vehicle is moving at a speed of 3 mph (5 km/h) or less, and an object is approaching your vehicle at a speed of 3 mph (5 km/h) or less.

Note: The rate of the tone increases as your vehicle moves closer to an object.

When the parking aid system sounds a tone, the audio system may reduce the set volume. When the warning ends, the audio system returns to the previously set volume.

Note: Volume reduction is not a standard feature of all audio systems.

Switching the Parking Aid System Off



E177143

Press the button to switch the system off. The system remains off until you switch the ignition off. The button is located on the instrument panel.

REAR VIEW CAMERA

WARNINGS



Objects in the display are closer than they appear.

Parking Aids (If Equipped)

WARNINGS



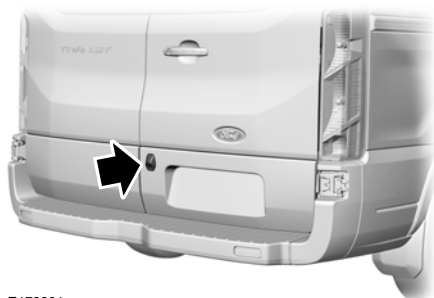
The operation of the camera may vary depending on the ambient temperature, vehicle and road conditions.



Do not place objects in front of the camera.



The camera may not detect objects that are very close to your vehicle.



E170301

The camera is on the rear cargo door.

Switching the Rear View Camera On

Switch the ignition on and shift into reverse (R). The image will display in the interior mirror or in the information and entertainment display.

The camera may not operate correctly in any of the following conditions:

- Dark areas.
- Intense light areas.
- If there is a sudden change to the ambient temperature.
- If the camera is wet.
- If the camera is dirty.
- If the camera is obstructed.

Using the Display

WARNING

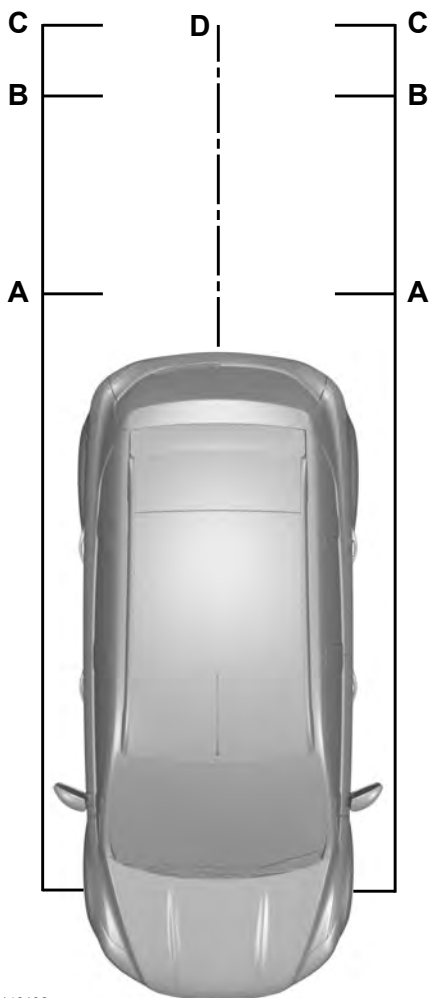


Objects above the camera may not be visible. Check the area behind your vehicle when necessary.

The lines show a projected vehicle path and the approximate distance from the rear bumper to an object.

Distance markers are only a guide and are calculated for unloaded vehicles on an even road surface.

Parking Aids (If Equipped)



E142132

- A Red - up to 12 inches (0.3 meter).
- B Amber - 12 inches to 24 inches (0.3 meter to 0.6 meter).

- C Green - 24 inches to 35 inches (0.6 meter to 0.9 meter).
- D Black - center line of the projected vehicle path.

Note: The green line is extended from 35 in (0.9 m) up to a distance of 126 in (3.2 m).

Note: When reversing with a trailer the camera will show the direction of your vehicle and not the direction of the trailer.

Note: When reversing with a trailer the screen does not display the lines.

Manual Zoom

WARNING



When manual zoom is on, the full area behind your vehicle may not show. Be aware of your surroundings when using the manual zoom feature.

Note: Manual zoom is only available when the transmission is in reverse (R).

Note: When you enable manual zoom, only the centerline is shown.

Selectable settings for this feature are Zoom in (+) and Zoom out (-). Press the symbol in the camera screen to change the view. The default setting is Zoom OFF.

This allows you to get a closer view of an object behind your vehicle. The zoomed image keeps the bumper in the image to provide a reference. The zoom is only active while the transmission is in reverse (R).

Switching the Rear View Camera Off

Move the gearshift lever from reverse (R).

Note: The system will automatically switch once your vehicle speed has reached approximately 5 mph (8 km/h) or after a short period of time.

Parking Aids (If Equipped)

Vehicles with Parking Aid

The display will show a colored distance bar. This indicates the approximate distance from the rear bumper to an object.

These are color coded as follows:

- Red - up to 12 in (0.3 m).
- Amber - 12 in (0.3 m) to 24 in (0.6 m).
- Green - 24 in (0.6 m) to 71 in (1.8 m).

Cruise Control

PRINCIPLE OF OPERATION

WARNING



The system does not relieve you of your responsibility to drive with due care and attention.

Cruise control allows you to control your speed using the switches on the steering wheel. You can use cruise control when you exceed approximately 20 mph (30 km/h).

USING CRUISE CONTROL

WARNINGS



Do not use cruise control in heavy traffic, on winding roads or when the road surface is slippery. This could result in loss of vehicle control, serious injury or death.



When you are going downhill, your vehicle speed may increase above the set speed. The system will not apply the brakes. Change down a gear to assist the system in maintaining the set speed. Failure to do so could result in loss of vehicle control, serious injury or death.

Note: Cruise control will disengage if your vehicle speed decreases more than 10 mph (16 km/h) below your set speed while driving uphill.



E142437

The cruise controls are located on the steering wheel.

Switching Cruise Control On

Press and release **ON**.



The indicator will display in the instrument cluster.

Setting a Speed

1. Accelerate to the desired speed.
2. Press and release **SET+**.
3. Take your foot off the accelerator pedal.

Cruise Control

Changing the Set Speed

- Press and release **SET+** or **SET-**. When you select kph as the display measurement in the information display, the set speed changes in approximately 2 kph increments. When you select mph as the display measurement in the information display, the set speed changes in approximately 1 mph increments.
- Press the accelerator or brake pedal until you reach the desired speed. Press and release **SET+**.
- Press and hold **SET+** or **SET-**. Release the control when you reach the desired speed.

Canceling the Set Speed

Pull **CAN** toward you and release, or tap the brake pedal. The set speed will not be erased.

Resuming the Set Speed

Pull **RES** toward you and release.

Switching Cruise Control Off

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

Press and release **OFF** or switch the ignition off.

Driving Aids

SPEED LIMITER

Engine Speed Limiter

Engine speed is limited to protect the engine.

Vehicle Speed Limiter - Fixed

The system prevents you from driving faster than a programmed speed.

DRIVER ALERT

Principle of Operation

WARNINGS



The system does not relieve you of your responsibility to drive with due care and attention.



At all times you are responsible for controlling your vehicle, supervising the system and intervening if required.



If the sensor becomes blocked the system may not function.



Take regular rest breaks as required and do not wait for the system to warn you if you feel tired.



Take rest breaks only where it is safe to do so.



Certain driving styles and behavior may result in the system issuing a warning even if you are not feeling tired.



In cold and severe weather conditions the system may not function. Rain, snow, spray and large contrasts in lighting can all influence the sensor.



The system will not operate if the sensor cannot track the road lane markings.

WARNINGS



The system may not operate in areas during roadwork construction.



The system may not operate on roads with sharp bends or narrow lanes.



Do not carry out windshield repairs in the immediate area surrounding the sensor.



If your vehicle has a suspension kit not approved by us, the system may not function correctly.

Note: *Keep the windshield free from obstructions such as bird droppings, insects and snow or ice.*

Note: *The system assists you when driving on fast main roads and freeways.*

Note: *The system calculates an alertness level at vehicle speeds above approximately 40 mph (65 km/h).*

The system automatically monitors your driving behavior.

The system is designed to alert you if it detects that you are becoming drowsy or if your driving deteriorates.

Using Driver Alert

Switching the System On and Off

Note: *The system will remain on or off depending on how it was last set.*

Switch the system on using the information display. See **Information Displays** (page 82).

The system will calculate your alertness level based upon your driving behavior in relation to the lane markings and other factors.

Driving Aids

System Warnings

Note: The system will not issue warnings below approximately 40 mph (65 km/h).

The warning system has two stages:

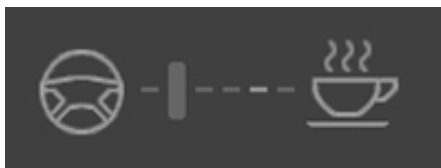
1. A temporary warning is issued to advise you to take a rest. This message only appears for a short time.
2. If you do not rest and the system continues to detect that your driving deteriorates, it will issue a further warning. This will remain in the information display until you cancel it. See **Information Messages** (page 87).

Press **OK** on the steering wheel control to remove the warning.

System Display

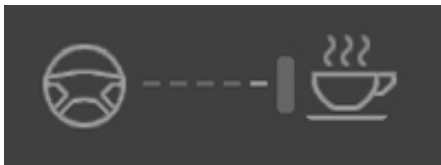
When active the system will run automatically in the background and only issue warnings if required. You can view the status at any time using the information display. See (page 82).

The alertness level is shown by six steps as a colored bar.



E131358

Alertness level is fine, no rest required.



E131359

Alertness level is critical, indicating that you should take a rest as soon as it is safe to do so.

The status bar will travel from left to right as the calculated alertness level decreases. As the rest icon is approached the color turns from green to yellow and then finally red when a rest break must be taken.

- Green: No rest required.
- Yellow: First (temporary) warning.
- Red: Second warning.

Your alertness level will be shown in grey if:

- the camera sensor cannot track the road lane markings
- your vehicle speed drops below approximately 40 mph (65 km/h).

Resetting the System

You can reset the system by:

- switching the ignition off and on
- stopping your vehicle and then opening and closing the driver's door.

LANE KEEPING SYSTEM

Lane Keeping Alert

Principle of Operation

WARNINGS



The system does not relieve you of your responsibility to drive with due care and attention.



At all times you are responsible for controlling your vehicle, supervising the system and intervening if required.



If the sensor becomes blocked the system may not function.

Driving Aids

WARNINGS

 The sensor may incorrectly track lane markings such as other structures or objects. This can result in a false or missed warning.

 In cold and severe weather conditions the system may not function. Rain, snow, spray and large contrasts in lighting can all influence the sensor.

 The system will not operate if the sensor cannot track the road lane markings.

 The system may not operate in areas during roadwork construction.

 The system may not operate on roads with sharp bends or narrow lanes.

 Do not carry out windshield repairs in the immediate area surrounding the sensor.

 If your vehicle has a suspension kit not approved by us, the system may not function correctly.

Note: *Keep the windshield free from obstructions such as bird droppings, insects and snow or ice.*

Note: *The system may assist you when driving on fast main roads and freeways.*

Note: *The system may not operate during hard braking or acceleration and when you are intentionally steering your vehicle.*

Note: *The system will operate with a minimum of one tracked lane marking.*

Note: *The system will only operate above vehicle speeds of approximately 39 mph (62 km/h).*

The sensor is located behind the interior mirror. It continuously monitors conditions to alert you of unintentional lane drifting at high speeds.

The system will automatically detect and track the lane markings on the road. If the system detects that your vehicle is unintentionally drifting toward the lane markings, you will see a warning in the information display. There is also a warning given in the form of a vibration felt through the steering wheel.

Note: *The vibration intensity from the steering wheel may decrease depending on the quality of the road surface.*

Using Lane Keeping Alert

Switching the System On and Off



E132099

Turn the system on and off using the button on the direction indicator stalk.

Press the button twice to turn the system on. Press the button once to turn the system off.

Note: *When you switch the system off, a warning indicator will remain illuminated in the information display. See **Warning Lamps and Indicators** (page 78).*

Setting the Steering Wheel Vibration Level

The system has three intensity levels which you can set using the information display. See (page 82).

Setting the System Sensitivity

You can adjust how quickly the system warns you. The system has two sensitivity levels which you can set using the information display. See (page 82).

Driving Aids

System Warnings



E152382

A column of lane markings are displayed on either side of the vehicle graphic.

The lane markings are color coded as follows:

- Green: The system is ready to warn you of any unintentional lane departure.
- Red: Your vehicle is approaching or is too close to the detected lane boundary. Take immediate safe action to reposition your vehicle.
- Gray: The system will suppress the relevant lane boundary.

Instances where a lane boundary may be suppressed:

- The sensor may not detect the lane markings on the road.
- You turn the direction indicator for that side of your vehicle on.
- If you apply direct steering, accelerate fast or brake hard.
- Your vehicle speed is outside the operating limits.

- If there is an anti-lock brake or stability control intervention.
- Narrow lane width.

If the lane markings in the display turn red or you feel a vibration through the steering wheel you must take immediate and safe action to align your vehicle. Correct any unintended lane drift immediately.



STEERING

To help prevent damage to the power steering system:

- Never hold the steering wheel at its furthest turning points (until it stops) for more than three to five seconds when the engine is running.
- Do not operate the vehicle with a low power steering pump fluid level (below the MIN mark on the reservoir).
- Some noise is normal during operation. If excessive, check for low power steering pump fluid level before seeking service by your dealer.
- Heavy or uneven efforts may be caused by low power steering fluid. Check for low power steering pump fluid level before seeking service by your dealer.
- Do not fill the power steering pump reservoir above the MAX mark on the reservoir, as this may result in leaks from the reservoir.

If the power steering system breaks down (or if the engine is turned off), you can steer the vehicle manually, but it takes more effort.

Driving Aids

If the steering wanders or pulls, check for:

- an improperly inflated tire
- uneven tire wear
- loose or worn suspension components
- loose or worn steering components
- improper vehicle alignment

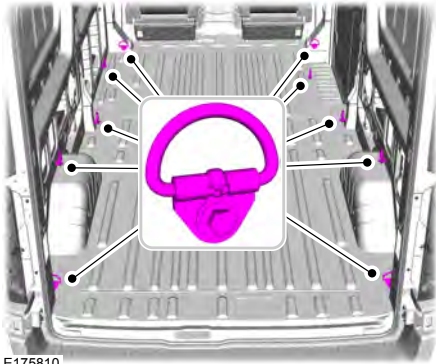
If any steering components are serviced or replaced, install new fasteners (many are coated with thread adhesive or have prevailing torque features which may not be re-used). Never re-use a bolt or nut. Torque fasteners to specifications.

A high crown in the road or high crosswinds may also make the steering seem to wander or pull.

Load Carrying

LOAD RETAINING FIXTURES

Securing Cargo



E175810

Variant	Maximum Load Value
All Van	1,125 lb (5,000 N)

Note: The number of load retaining fixtures may vary depending on your vehicle model.

LOAD LIMIT

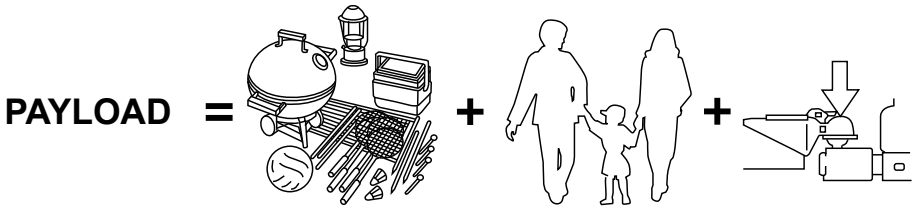
Vehicle Loading - with and without a Trailer

This section will guide you in the proper loading of your vehicle, trailer or both, to keep your loaded vehicle weight within its design rating capability, with or without a trailer. Properly loading your vehicle will provide maximum return of vehicle design performance. Before loading your vehicle, familiarize yourself with the following terms for determining your vehicle's weight ratings, with or without a trailer, from the vehicle's Tire Label or Safety Compliance Certification Label:

Base Curb Weight - is the weight of the vehicle including a full tank of fuel and all standard equipment. It does not include passengers, cargo, or optional equipment.

Vehicle Curb Weight - is the weight of your new vehicle when you picked it up from your authorized dealer plus any aftermarket equipment.

Load Carrying



E143816

Payload - is the combined weight of cargo and passengers that the vehicle is carrying. The maximum payload for your vehicle can be found on the Tire Label on the B-Pillar or the edge of the driver door (vehicles exported outside the US and Canada may not have a Tire 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 Label is the maximum payload for the vehicle as built by the assembly plant. If you install any aftermarket or authorized-dealer installed equipment on the vehicle, you must subtract the weight of the equipment from the payload listed on the Tire Label in order to determine the new 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.

Example only:



TIRE AND LOADING INFORMATION

SEATING CAPACITY	TOTAL 5	FRONT 2	REAR 3

The combined weight of occupants , XXX kg or XXX lbs.
and cargo should never exceed .

TIRE	SIZE	COLD TIRE PRESSURE	SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
FRONT	LT225/75R 16.5E	200 KPA, 29 PSI	
REAR	LT225/75R 16.5E	200 KPA, 29 PSI	
SPARE	T145/80D16 P225/60R17	420 KPA, 60 PSI 200 KPA, 29 PSI	



E210944

Load Carrying

TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT			
SEATING CAPACITY NOMBRE DE PLACES		TOTAL 5	2 FRONT 3 ARRIERE
The combined weight of occupants and cargo should never exceed Le poids total des occupants et du chargement ne doit jamais dépasser			
		492 kg or 1085 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	P235/70R16	240 KPA, 35 PSI	
REAR ARRIERE	P235/70R16	240 KPA, 35 PSI	
SPARE DE SECOURS	T145/90R17	415 KPA, 60 PSI	

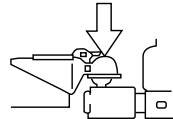
E210945

CARGO

=



+



E143817

Cargo Weight - includes all weight added to the Base Curb Weight, including cargo and optional equipment. When towing, trailer tongue load or king pin weight is also part of cargo weight.

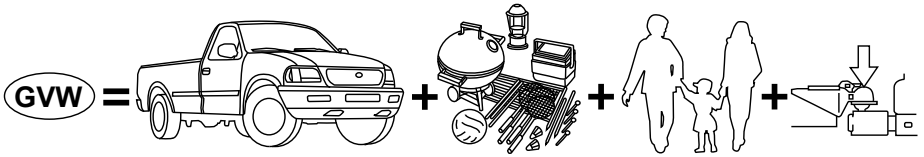
GAW (Gross Axle Weight) - is the total weight placed on each axle (front and rear) including vehicle curb weight and all payload.

GAWR (Gross Axle Weight Rating) - is the maximum allowable weight that can be carried by a single axle (front or rear). These numbers are shown on the Safety Compliance

Certification Label. The label shall be 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. **The total load on each axle must never exceed its Gross Axle Weight Rating.**

Note: For trailer towing information refer to the RV and Trailer Towing Guide available at an authorized dealer.

Load Carrying



E143818

GVW (Gross Vehicle Weight) - is the Vehicle Curb Weight, plus cargo, plus passengers.

GVWR (Gross Vehicle Weight Rating) - is the maximum allowable weight of the fully loaded vehicle (including all options, equipment, passengers and cargo). It is shown on the

Safety Compliance Certification Label. The label shall be 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. **The Gross Vehicle Weight must never exceed the Gross Vehicle Weight Rating.**

Example only:

MFD. BY FORD MOTOR CO.

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

FRONT GAWR: XXXX KG (XXXX LB) WITH REAR GAWR: 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
XXX	XX	XXX	X	XX
		XXXX	XXXX	XXXX

MFD. BY FORD MOTOR CO.

DATE: xx/xx GVWR/PNBV: xxxxx LB/xxxxx KG

FRONT GAWR/PNBE AY / REAR GAWR/ PNBE AR

xxxxx /xxxxx B / xxxxx KG/xxxxx B

WITH/AVEC TIRES/PNEUS

xxxxx /xxxxxx

xxxxx /xxxxxx

xxxxxx RIMS/JANTES xxxxxxx

AT/A kPa/PSI/LPC xxx/xx COLD/A FROID xxx/xx

VIN: xxxxxxxxxxxxxxxxxxxx

TYPE: xxx/xxxx COMPLETES: xxxxx/xxxx-xxxx

XXXXXXXXXXXXXXXXXXXX



EXT PNT:	U		RC: xx	DSO:
WB	INT TR	TP/PS	R	AXLE
xxx	xx	x	xx	x
		xxxxx	xxxxx	xxxxx

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Load Carrying

WARNING



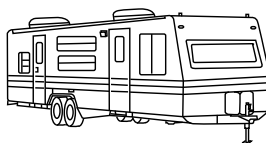
Exceeding the Safety Compliance Certification Label vehicle weight rating limits could result in substandard vehicle handling or performance, engine, transmission and/or structural damage, serious damage to the vehicle, loss of control and personal injury.

GCW

=

GVW

+



E143819

GCW (Gross Combined Weight)

- is the Gross Vehicle Weight plus the weight of the fully loaded trailer.

GCWR (Gross Combined Weight Rating)

- is the maximum allowable weight of the vehicle and the loaded trailer, including all cargo and passengers, that the vehicle can handle without risking damage. (Important: The towing vehicle's braking system is rated for operation at Gross Vehicle Weight Rating, not at Gross Combined Weight Rating.)

Separate functional brakes should be used for safe control of towed vehicles and for trailers where the Gross Combined Weight of the

towing vehicle plus the trailer exceed the Gross Vehicle Weight Rating of the towing vehicle. **The Gross Combined Weight must never exceed the Gross Combined Weight Rating.**

Maximum Loaded Trailer Weight

- is the highest possible weight of a fully loaded trailer the vehicle can tow. It assumes a vehicle with mandatory options, driver and front passenger weight (150 pounds [68 kilograms] each), no cargo weight (internal or external) and a tongue load of 10–15% (conventional trailer) or king pin weight of 15–25% (fifth wheel trailer). Consult an authorized dealer (or the RV and Trailer Towing Guide available at an authorized dealer) for more detailed information.

Load Carrying

Tongue Load or Fifth Wheel King Pin Weight - refers to the amount of the weight that a trailer pushes down on a trailer hitch.

Examples: For a 5000 pound (2268 kilogram) conventional trailer, multiply 5000 by 0.10 and 0.15 to obtain a proper tongue load range of 500 to 750 pounds (227 to 340 kilograms). For an 11500 pound (5216 kilogram) fifth wheel trailer, multiply by 0.15 and 0.25 to obtain a proper king pin load range of 1725 to 2875 pounds (782 to 1304 kilograms).

WARNINGS



Do not exceed the GVWR or the GAWR specified on the Safety Compliance Certification Label.



Do not use replacement tires with lower load carrying capacities than the original tires because they may lower the vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the original tires do not increase the GVWR and GAWR limitations.



Exceeding any vehicle weight rating limitation could result in serious damage to the vehicle and/or personal injury.

Steps for determining the correct load limit:

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lb.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1,400 lb. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lb. $(1400 - 750 (5 \times 150) = 650 \text{ lb.})$.
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

The following gives you a few examples on how to calculate the available amount of cargo and luggage load capacity:

Load Carrying

*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.

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. The label shall be 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.

Load Carrying

Special Loading Instructions for Owners of Pick-up Trucks and Utility-type Vehicles

WARNING



Loaded vehicles may handle differently than unloaded vehicles. Extra precautions, such as slower speeds and increased stopping distance, should be taken when driving a heavily loaded vehicle.

Your vehicle can haul more cargo and people than most passenger cars. Depending upon the type and placement of the load, hauling cargo and people may raise the center of gravity of the vehicle.

Towing

TOWING A TRAILER

WARNINGS



Do not exceed the Gross Vehicle Weight Rating or the Gross Axle Weight Rating specified on the certification label.



Towing trailers beyond the maximum recommended gross trailer weight exceeds the limit of the vehicle and could result in engine damage, transmission damage, structural damage, loss of vehicle control, vehicle rollover and personal injury.

Your vehicle may have electrical items, for example fuses or relays, related to towing. See **Fuses** (page 193).

Your vehicle's load capacity designation is by weight, not by volume, so you cannot necessarily use all available space when loading your vehicle.

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 tow bar with the correct rise or drop. 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 correct trailer loading and setting your vehicle up for towing is located in another chapter of this Owner's Manual. See **Load Limit** (page 158). You can also find the information in the RV & Trailer Towing Guide. See an authorized dealer.

Towing

TRAILER SWAY CONTROL

Note: *This feature does not prevent trailer sway, but reduces it once it begins.*

Note: *This feature cannot stop all trailers from swaying.*

Note: *In some cases, if your vehicle speed is too high, the system may turn on multiple times, gradually reducing your vehicle speed.*

This feature applies your vehicle brakes at individual wheels and if necessary, reduces engine power. If the trailer begins to sway, the traction control warning lamp flashes and a message will appear in the information display. Slow your vehicle down, pull safely to the side of the road and check for correct load distribution. See **Load Carrying** (page 158).

RECOMMENDED TOWING WEIGHTS

Note: *Make sure to take into consideration trailer frontal area. Vehicles equipped with the Trailer Tow Package or the Heavy Duty Payload Package should not exceed 55 ft² (5.1 m²) trailer frontal area.*

Note: *Exceeding this limitation may significantly reduce the performance of your towing vehicle. Selecting a trailer with a low aerodynamic drag and rounded front design helps optimize performance and fuel economy.*

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. Be sure to check state regulations for this specified weight. The maximum trailer weights listed may be limited to this specified weight, as your vehicle's electrical system may not include the wiring connector needed to use 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 charts.

Towing

Van and Chassis Cab			
Powertrain	Axle Ratio	Maximum GCWR	Maximum Loaded Trailer Weight*
3.2L Power Stroke Diesel	3.31	10600 lb (4808 kg)	4750 lb (2155 kg)
3.2L Power Stroke Diesel	3.73	13500 lb (6123 kg)	7500 lb (3402 kg)
3.5L V6 GTDI	3.31	11200 lb (5080 kg)	5700 lb (2585 kg)
3.5L V6 GTDI	3.73	12600 lb (5715 kg)	7150 lb (3243 kg)
3.7L V6 TiVCT	3.73	10800 lb (4899 kg)	5350 lb (2427 kg)
3.7L V6 TiVCT	4.10	12000 lb (5450 kg)	6700 lb (3039 kg)

*Calculated with SAE J2807 method.

Wagon			
Powertrain	Axle Ratio	Maximum GCWR	Maximum Loaded Trailer Weight*
3.2L Power Stroke Diesel	3.31	10600 lb (4808 kg)	4200 lb (1905 kg)
3.2L Power Stroke Diesel	3.73	11200 lb (5080 kg)	4650 lb (2109 kg)
3.5L V6 GTDI	3.31	11200 lb (5080 kg)	5150 lb (2336 kg)
3.7L V6 TiVCT	3.73	10800 lb (4899 kg)	4800 lb (2177 kg)
3.7L V6 TiVCT	4.10	11200 lb (5080 kg)	5200 lb (2359 kg)

*Calculated with SAE J2807 method.

Towing

Calculating the Maximum Loaded Trailer Weight for Your Vehicle

1. Start with the gross combined weight rating for your vehicle model and axle ratio. See the previous charts.
2. Subtract all of the following that apply to your vehicle:
 - Vehicle curb weight
 - Hitch hardware weight, such as a draw bar, ball, locks or weight distributing hardware
 - Driver weight
 - Passenger(s) weight
 - Payload, cargo and luggage weight
 - Aftermarket equipment weight.

This equals the maximum loaded trailer weight for this combination.

Note: *The trailer tongue load is considered part of the payload for your vehicle. Reduce the total payload by the final trailer tongue weight.*

Note: *Consult an authorized dealer to determine the maximum trailer weight allowed for your vehicle if you are not sure.*

ESSENTIAL TOWING CHECKS

Follow these guidelines for safe towing:

- Do not tow a trailer until your vehicle has covered at least 1,000 mi (1,600 km). See **Breaking-In** (page 178).
- Consult your local motor vehicle laws for towing a trailer.
- See the instructions included with towing accessories for the correct installation and adjustment specifications.
- Service your vehicle more frequently if you tow a trailer. See **Scheduled Maintenance** (page 363).
- If you use a rental trailer, follow the instructions the rental agency gives you.

For load specification terms found on the tire label, Safety Compliance label and instructions on calculating your vehicle's maximum load See **Load Limit** (page 158).

Remember to account for the trailer tongue weight as part of your vehicle load when calculating the total vehicle weight.

Trailer Towing Connector (If Equipped)



E163167

Your vehicle is fitted with both a 7 pin and 4 pin trailer wiring connector.

Towing

When attaching the trailer wiring connector to your vehicle, only use a correctly fitting connector that works with the vehicle and trailer functions. Some seven-position connectors may have the SAE J2863 logo, which confirms that it is the correct wiring connector and works correctly with your vehicle.

Color	Function
Yellow	Left turn signal and brake lamp.
White	Ground (-).
Blue	Electric brakes.
Green	Right turn signal and brake lamp.
Orange	Battery (+).
Brown	Running lamps.
Grey	Reverse lamps.

Tow Hitch

WARNING



Do not cut, drill, weld or modify the hitch.

Do not use a tow hitch that either clamps on to the bumper or attaches to the axle. You must distribute the load in your trailer so that between 10% and 15% of the total weight of the trailer is on the tongue.

Weight Distributing Hitches

A weight distribution hitch is not recommended for use with your vehicle.

Safety Chains

WARNING



Do not attach safety chains to the bumper.

Always connect the safety chains to the frame or hook retainers of your vehicle's tow hitch.

To connect the safety chains, cross the chains under the trailer tongue and allow enough slack for turning tight corners. Do not allow the chains to drag on the ground.

Trailer Brakes (If Equipped)

WARNING



Do not connect trailer hydraulic brake systems directly to the vehicle brake system. Your vehicle may not have enough braking power and your chances of having a crash greatly increase.

Electric, manual, automatic or surge-type trailer brakes are safe if you install them correctly and adjust them to the manufacturer's specifications. 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 1,500 lb (680 kg) when loaded.

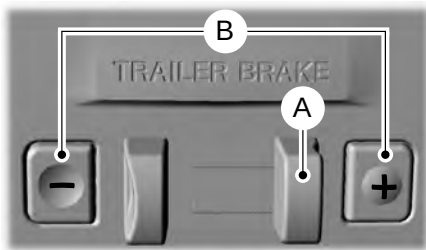
Towing

Integrated Trailer Brake Controller

WARNING



The Ford trailer brake controller has been verified to be compatible with trailers having electric-actuated drum brakes (one to four axles) and electric-over-hydraulic brakes. It will not turn on the hydraulic surge-style trailer brakes. It is the responsibility of the customer to make sure that the trailer brakes are adjusted appropriately, functioning normally and all electric connections are correctly made. Failure to do so may result in loss of vehicle control, crash or serious injury.



E166403

- A Manual control lever.
- B Gain adjustment buttons.

When used correctly, the trailer brake controller assists in smooth and effective trailer braking by powering the trailer's electric or electric-over-hydraulic brakes with a proportional output based on the towing vehicle's brake pressure.

Slide the manual control lever to the left to turn on the trailer's electric brakes. They work independently of the tow vehicle's braking system. See **Procedure for adjusting the gain setting** for instructions on correct use of this feature. If you use the manual control while the brake is also applied, the greater of the two inputs determines the power sent to the trailer brakes.

1. Press the **+** and **-** buttons to adjust the brake controller's power output to the trailer brakes in 0.5 increments. You can increase the gain setting to 10 (maximum trailer braking) or decrease it to zero (no trailer braking). Pressing and holding a button raises or lowers the setting continuously.

The gain setting displays in the information display as:

Message
Trailer Brake
Gain:

Note: Using the manual control lever illuminates the trailer's brake lamps and your vehicle's brake lamps, except the center high-mounted brake lamp, if you make the correct electrical connection to the trailer.

Towing

The controller shows gain setting, output bar graph and the trailer connectivity status in the information display as follows:

Message	Action and Description
Trailer Brake Gain: No Trailer	Displays the current gain setting during a given ignition cycle and when adjusting the gain setting. This also displays if you use the manual control lever or make gain adjustments with no trailer connected.
Trailer Brake Gain: Output:	Displays when you press your vehicle's brake pedal, or upon use of the manual control lever. Bar indicators illuminate in the information display to indicate the amount of power going to the trailer brakes relative to the brake pedal or manual control input. One bar indicates the least amount of output; six bars indicate maximum output.
Trailer Connected	Displays when the system senses a correct trailer wiring connection during a given ignition cycle. For example a trailer with electric trailer brakes.
Trailer Disconnected	Displays when the system senses a trailer connection and then a disconnection, either intentional or unintentional, during a given ignition cycle, this is accompanied by a single audible tone. It also displays if a vehicle or trailer-wiring fault occurs causing the trailer to appear disconnected. This message can also display if you use the manual control lever without a trailer connected.

Procedure for Adjusting the Gain Setting

The gain setting sets the trailer brake controller for the specific towing condition. You should change the setting as towing conditions change. Changes to towing conditions include trailer load, vehicle load, road conditions and weather.

The gain should be set to provide the maximum trailer braking assistance while making sure the trailer wheels do not lock when using the brakes. Locked trailer wheels may lead to trailer instability.

Note: Only carry out this procedure in a traffic-free environment at speeds of approximately 20-25 mph (30-40 km/h).

1. Make sure the trailer brakes are in good working condition, functioning normally and correctly adjusted. See a trailer dealer if necessary.
2. Hook up the trailer and make the electrical connections according to the trailer manufacturer's instructions.
3. Use the gain adjustment **+** and **-** buttons to increase or decrease the gain setting to the desired starting point. A gain setting of six is a good starting point for heavier loads.
4. In a traffic-free environment, tow the trailer on a dry, level surface at a speed of 20-25 mph (30-40 km/h) and slide the manual control lever completely.

Towing

5. If the trailer wheels lock, indicated by squealing tires, reduce the gain setting. If the trailer wheels turn freely, increase the gain setting. Repeat steps four and five until the gain setting is at a point

just below trailer wheel lock. If towing a heavier trailer, trailer wheel lock may not be attainable even with the maximum gain setting of 10.

System Warning Messages

Message	Action and Description
Trailer Brake Module Fault	Displays in response to faults sensed by the trailer brake controller, accompanied by a single tone. If this message appears, contact an authorized dealer as soon as possible for diagnosis and repair. The controller may still function, but performance may be degraded.
Wiring Fault on Trailer	Displays when there is a short circuit on the electric brake output wire. If the message displays, accompanied by a single tone, with no trailer connected, the problem is with your vehicle wiring between the trailer brake controller and the 7-pin connector. If the message only displays with a trailer connected, the problem is with the trailer wiring. Consult a trailer dealer for assistance. This can be a short to ground, for example a chaffed wire, short to voltage, for example a pulled pin on trailer emergency breakaway battery or the trailer brakes may be drawing too much current.

Note: An authorized dealer can diagnose the trailer brake controller to determine exactly which trailer fault has occurred. However, the Ford Warranty does not cover this diagnosis if the fault is with the trailer.

Points to Remember

- Do not attempt removal of the trailer brake controller without consulting the Workshop Manual. Damage to the unit may result.
- Adjust gain setting before using the trailer brake controller for the first time.
- Adjust gain setting, using the procedure above, whenever road, weather and trailer or vehicle loading conditions change from when the gain was initially set.
- Only use the manual control lever for correct adjustment of the gain during trailer setup. Misuse, such as application during trailer sway, could cause instability of trailer or tow vehicle.
- Avoid towing in adverse weather conditions. The trailer brake controller does not provide anti-lock control of the trailer wheels. Trailer wheels can lock up on slippery surfaces, resulting in instability of trailer or tow vehicle.

Towing

- The trailer brake controller is fitted with a feature that reduces output at vehicle speeds below 11 mph (18 km/h) so trailer and vehicle braking is not jerky or harsh. This feature is only available when applying the brakes using your vehicle's brake pedal, not the controller.
- The controller interacts with the brake control system and powertrain control system of your vehicle to provide the best performance on different road conditions.
- Your vehicle's brake system and the trailer brake system work independently of each other. Changing the gain setting on the controller does not affect the operation of your vehicle's brake system whether you attach a trailer or not.
- When you switch the engine off, the controller output is disabled and the display and module shut down. The controller module and display turn on when you switch the ignition on.
- The trailer brake controller is only a factory-installed or dealer-installed item. Ford is not responsible for warranty or performance of the controller due to misuse or customer installation.

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 an authorized dealer as soon as possible for assistance in correct trailer tow wiring installation. Additional electrical equipment may be required.

Trailer lamps are required on most towed vehicles. Make sure all running lamps, brake lamps, turn signals and hazard warning lamps are working.

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) until you drive your vehicle at least 495 mi (800 km). See **Breaking-In** (page 178).
- Do not make full-throttle starts.
- Check the tow 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 park (**P**) to aid engine and transmission cooling and to help A/C performance.
- Turn off the speed control with heavy loads or on 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 the transmission is fitted with a Grade Assist, **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.

Towing

- If your vehicle is fitted with AdvanceTrac with roll stability control (RSC), this system may turn on during typical cornering maneuvers with a heavily loaded trailer. This is normal. Turning the corner at a slower speed while towing may reduce this tendency.
- If you are towing a trailer frequently in hot weather, hilly conditions, at the gross combined weight rating (or any combination of these factors), consider refilling your vehicle's rear axle with synthetic gear lubricant (if the axle is not already filled with it). See **Scheduled Maintenance** (page 363).
- 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:
 - Turn the steering wheel to point your vehicle tires away from traffic flow.
 - Set your vehicle parking brake.
 - Place the automatic transmission in position park (**P**).
 - Place wheel chocks in front of and at the back of the trailer wheels. (Trailer wheel chocks are not included with your vehicle.)

Launching or Retrieving a Boat or Personal Water Craft (PWC)

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.

Note: Disconnect the wiring to the trailer before backing the trailer into the water.

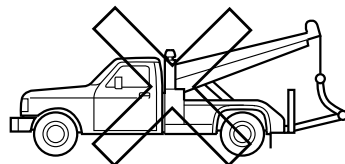
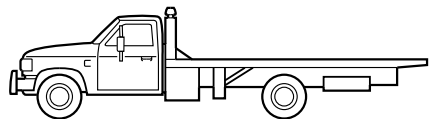
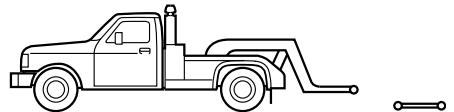
Note: Reconnect the wiring to the trailer after the trailer is removed from the water.

Exceeding these limits may allow water to enter vehicle components:

- Causing internal damage to the components.
- Affecting driveability, emissions, and reliability.

Replace the rear axle lubricant anytime the rear axle has been submerged in water. Water may have contaminated the rear axle lubricant, which is not normally checked or changed unless a leak is suspected or other axle repair is required.

TRANSPORTING THE VEHICLE



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Towing

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.

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 two-wheel drive vehicle towed with the front wheels on the ground (without dollies) and the rear wheels off the ground.

We recommend towing a four-wheel drive vehicle with all wheels off the ground, such as using a wheel lift and dollies or flatbed equipment. However, it is acceptable to use a wheel lift to raise the rear of your vehicle so long as, depending on vehicle configuration, you perform the following before towing.

TOWING THE VEHICLE ON FOUR WHEELS

Emergency Towing

If your vehicle is disabled and you have no access to a tow dolly, car-hauling trailer or a flatbed transport vehicle, it can only be flat-towed with all wheels on the ground under the following conditions:

- Your vehicle is facing forward so that it is towed in a forward direction.
- The transmission selector lever is placed in position **N**. If the transmission gear shift lever cannot be moved to position **N**, it may need to be overridden. See **Automatic Transmission** (page 136).
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 miles (80 kilometers).

Drive off slowly and smoothly without jerking the vehicle that is being towed.

Tow ropes or rigid towing bars must be placed on the same side. For example; right hand rear towing point to right hand front towing point.

You must use a tow rope or rigid towing bar that is of the correct strength for the weight of the towing vehicle and the vehicle that is being towed.

Note: *Using a rigid towing bar is the safest way to tow a vehicle.*

The weight of the vehicle that is being towed must not exceed the weight of the towing vehicle.

Recreational Vehicle Towing

Follow these guidelines to prevent damage to your vehicle's transmission if you have a need for recreational vehicle towing. For example; towing your vehicle behind a motorhome.

Towing

Your vehicle cannot be flat-towed with all wheels on the ground beyond the limits set out above as vehicle or transmission damage may occur. See **Emergency Towing**. You must place your vehicle on a car-hauling trailer, or place the front wheels of your vehicle on a tow dolly. If you are using a tow dolly, follow the instructions specified by the equipment provider.

Note: *Put your vehicle's climate control system in recirculated air mode to prevent exhaust fumes from entering the vehicle. See **Climate Control** (page 92).*

Driving Hints

BREAKING-IN

You need to break in new tires for approximately 300 miles (480 kilometers). During this time, your vehicle may exhibit some unusual driving characteristics. The engine also needs to break in. Avoid hard accelerations and driving too fast for the first 1000 miles (1600 kilometers). If possible, avoid carrying heavy loads up steep grades during the break-in period.

REDUCED ENGINE PERFORMANCE

WARNING



Continued operation will increase the engine temperature and cause the engine to shut down completely.

If the engine coolant temperature gauge needle moves to the upper limit position, the engine is overheating. See **Gauges** (page 76).

You must only drive your vehicle for a short distance if the engine overheats. The distance you can travel depends on ambient temperature, vehicle load and terrain. The engine will continue to operate with limited power for a short time.

If the engine temperature continues to rise, the fuel supply to the engine will reduce. The air conditioning will switch off and the engine cooling fan will operate continually.

1. Reduce your speed gradually and stop your vehicle as soon as it is safe to do so.
2. Switch the engine off immediately to prevent severe engine damage.
3. Wait for the engine to cool down.
4. Check the coolant level. See **Engine Coolant Check** (page 214).

5. Have your vehicle checked by an authorized dealer as soon as possible.

ECONOMICAL DRIVING

Fuel economy is affected by several things such as how you drive, the conditions you drive under and how you maintain your vehicle.

There are some things to keep in mind that may improve your fuel economy:

- Accelerate and slow down in a smooth, moderate fashion.
- Drive at steady speeds.
- Anticipate stops; slowing down may eliminate the need to stop.
- Combine errands and minimize stop-and-go driving (When running errands, go to the furthest destination first and then work your way back home).
- Close the windows for high-speed driving.
- Drive at reasonable speeds.
- Keep the tires properly inflated and use only the recommended size.
- Use the recommended engine oil.
- Perform all regularly scheduled maintenance.

There are also some things you may want to avoid doing because they reduce your fuel economy:

- Avoid sudden or hard accelerations.
- Avoid revving the engine before turning off the car.
- Avoid long idle periods.
- Do not warm up your vehicle on cold mornings.
- Reduce the use of air conditioning and heat.
- Avoid using speed control in hilly terrain.

Driving Hints

- Do not rest your foot on the brake pedal while driving.
- Avoid carrying unnecessary weight.
- Avoid adding particular accessories to your vehicle (e.g. bug deflectors, rollbars/light bars, running boards, ski racks).
- Avoid driving with the wheels out of alignment.

COLD WEATHER PRECAUTIONS

The functional operation of some components and systems can be affected at temperatures below -13°F (-25°C).

DRIVING THROUGH WATER

WARNING

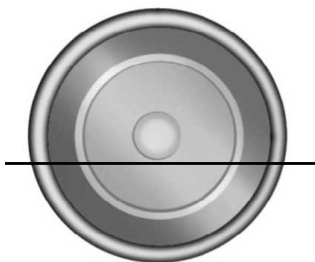


Do not drive through flowing or deep water as you may lose control of your vehicle.

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 wheel hubs.



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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

WARNINGS



Always use floor mats that are designed to fit the foot well of your vehicle. Only use floor mats that leave the pedal area unobstructed. Only use floor mats that are firmly secured to retention posts so that they cannot slip out of position and interfere with the pedals or impair safe operation of your vehicle in other ways.



Pedals that cannot move freely can cause loss of vehicle control and increase the risk of serious personal injury.

Driving Hints

WARNINGS



Always make sure that the floor mats are properly attached to the retention posts in the carpet that are supplied with your vehicle. Floor mats must be properly secured to both retention posts to make sure mats do not shift out of position.



Never place floor mats or any other covering in the vehicle foot well that cannot be properly secured to prevent them from moving and interfering with the pedals or the ability to control the vehicle.



Never place floor mats or any other covering on top of already installed floor mats. Floor mats should always rest on top of vehicle carpeting surface and not another floor mat or other covering. Additional floor mats or any other covering will reduce the pedal clearance and potentially interfere with pedal operation.



Check attachment of floor mats on a regular basis. Always properly reinstall and secure floor mats that have been removed for cleaning or replacement.



Always make sure that objects cannot fall into the driver foot well while the vehicle is moving. Objects that are loose can become trapped under the pedals causing a loss of vehicle control.



Failure to properly follow floor mat installation or attachment instructions can potentially cause interference with pedal operation causing a loss of vehicle control.



E142666

To install floor mats, position the floor mat so that the eyelet is over the retention post and press down to lock in.

To remove the floor mat, reverse the installation procedure.

Roadside Emergencies

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, if provided with the vehicle (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 (7.6 L) of gasoline or 5 gal (18.9 L) of diesel fuel to a disabled vehicle. Roadside Assistance limits fuel delivery service to two no-charge occurrences within a 12-month period.
- Winch out — available within 100 ft (30.5 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 Ford 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 Ford vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

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.

Roadside Emergencies

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle.

Canadian customers who require roadside assistance, call 1-800-665-2006.

Vehicles Sold in Canada: Using Roadside Assistance

Complete the roadside assistance identification card and place it in your wallet for quick reference.

In Canada, this card is found in the Warranty Guide in the glove compartment of your vehicle.

Vehicles Sold in Canada: Roadside Assistance Program Coverage

The service is available 24 hours a day, seven days a week.

Canadian roadside coverage and benefits may differ from the U.S. coverage.

For complete program coverage details you may contact your dealer, you can call us in Canada at 1-800-665-2006, or visit our website at www.ford.ca.

HAZARD WARNING FLASHERS



The hazard warning button is located on the instrument panel. Switch the hazard warning

flashers on when your vehicle is creating a safety hazard.

Press the button to switch the hazard warning flashers on. The front and rear direction indicators will flash.

Press the button again to switch the hazard warning flashers off.

Note: *Prolonged use of the hazard warning flashers will cause the battery to run out of charge. There may be insufficient power to restart the engine.*

FUEL SHUTOFF

WARNING



Failure to inspect and, if necessary, repair fuel leaks after a collision may increase the risk of fire and serious injury. Ford Motor Company recommends that the fuel system be inspected by an authorized dealer after any collision.

In the event of a moderate to severe collision, this vehicle includes a fuel pump shutoff feature that stops the flow of fuel to the engine. Not every impact will cause a shutoff.

Should your vehicle shut off after a collision, you may restart your vehicle. For vehicles equipped with a key system:

1. Switch off the ignition.
2. Switch on the ignition.
3. Repeat Steps 1 and 2 to re-enable the fuel pump.

Note: *When you try to restart your vehicle after a fuel shutoff, the vehicle makes sure that various systems are safe to restart. Once your vehicle determines that the systems are safe, then the vehicle will allow you to restart.*

Note: *In the event that your vehicle does not restart after your third attempt, contact an authorized dealer.*

JUMP STARTING THE VEHICLE

WARNINGS



The gases around the battery can explode if exposed to flames, sparks or lit cigarettes. An explosion could result in personal injury or vehicle damage.



Batteries contain sulfuric acid which can burn skin, eyes and clothing, if contacted.

Roadside Emergencies

WARNINGS



Use only an adequate-sized cable with insulated clamps.

Preparing Your Vehicle

Note: Do not attempt to push-start your automatic transmission vehicle. Automatic transmissions do not have push-start capability. Attempting to push-start a vehicle with an automatic transmission may cause transmission damage.

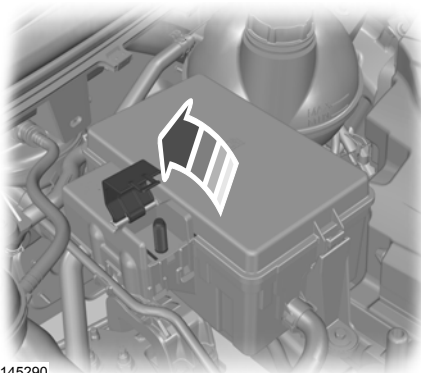
Note: Use only a 12-volt supply to start your vehicle.

Note: Do not disconnect the battery of the disabled vehicle as this could damage the vehicle's electrical system.

Park the booster vehicle close to the hood of the disabled vehicle, making sure the two vehicles do not touch, and switch off all accessories.

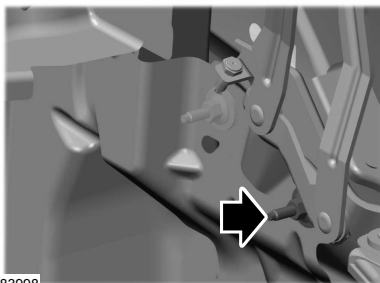
Your vehicle has a positive (+) access terminal and a negative (-) grounding connection point that you can access under the hood, even though the actual battery is under the driver seat. You can jump your vehicle using these points.

The positive (+) access terminal is next to the fuse box, under a red cap. To access the positive (+) terminal, lift the red cap up.



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The negative (-) terminal is a post, located on the driver side, near the hood hinge. It is a grounding connection point, so you will need to remove the rubber covering first.



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Connecting the Jumper Cables

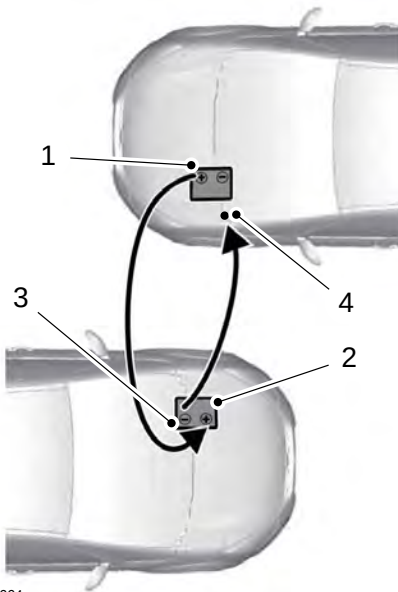
WARNING



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.

Roadside Emergencies

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



E142664

1. Connect the positive (+) jumper cable to the positive (+) access terminal of the vehicle with the discharged battery.
2. Connect the other end of the positive (+) cable to the positive (+) terminal of the assisting battery.
3. Connect the negative (-) cable to the negative (-) terminal of the assisting battery.
4. Make the final connection of the negative (-) cable to the grounding connection point of the vehicle with the discharged battery.

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.

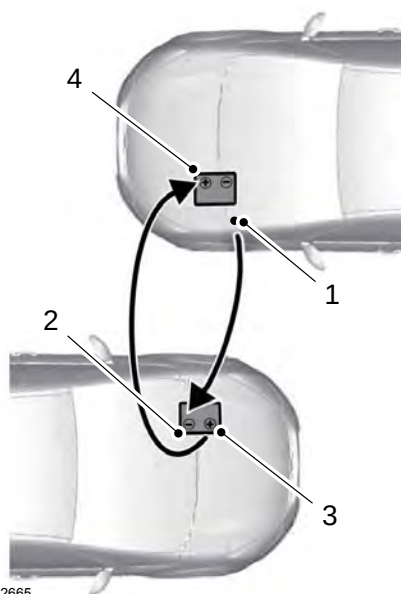
Jump Starting

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 rpms, as shown in your tachometer.
2. Start the engine of the disabled vehicle.
3. Once you start the disabled vehicle, 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.

Roadside Emergencies



E142665

POST-CRASH ALERT SYSTEM

The system flashes the direction indicators and sounds the horn (intermittently) in the event of a serious impact that deploys an airbag (front, side, side curtain or Safety Canopy) or the safety belt pretensioners.

The horn and indicators will turn off when:

- You press the hazard control button.
- You press the panic button on the remote entry transmitter (if equipped).
- Your vehicle runs out of power.

1. Remove the jumper cable from the grounding connection point of the vehicle with the discharged battery.
2. Remove the jumper cable on the negative (-) terminal of the booster vehicle's battery.
3. Remove the jumper cable from the positive (+) terminal of the booster vehicle's battery.
4. Remove the jumper cable from the positive (+) access terminal of the vehicle with the discharged battery.

After you start the disabled vehicle and remove the jumper cables, allow your vehicle to idle for several minutes so the battery can recharge.

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 48121

Telephone

1-800-392-3673 (FORD)
(TDD for the hearing impaired:
1-800-232-5952)

Additional information and resources are available online:

Website
www.fordowner.com

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
www.ford.ca

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

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 18000 miles (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

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

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.

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.

If you cannot find unleaded fuel or can only get fuel with an anti-knock index lower than is recommended for your vehicle, contact our Customer Relationship Center.

The use of leaded fuel 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 leaded fuel 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, Central America, the Caribbean, and Israel, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact:

FORD MOTOR COMPANY
Customer Relationship Center
1555 Fairlane Drive
Fairlane Business Park #3
Allen Park, Michigan 48101
U.S.A.
Telephone: (313) 594-4857
Fax: (313) 390-0804
Email: expcac@ford.com

Customer Assistance

For customers in Guam, the Commonwealth of the Northern Mariana Islands (CNMI), America Samoa, and the U.S. Virgin Islands, please feel free to call our Toll-Free Number: (800) 841-FORD (3673).

If your vehicle must be serviced while you are traveling or living in Puerto Rico, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact:

FORD MOTOR COMPANY
Customer Relationship Center
1555 Fairlane Drive
Fairlane Business Park #3
Allen Park, Michigan 48101
U.S.A.

Telephone: (800) 841-FORD (3673)

FAX: (313) 390-0804

Email: prcac@ford.com

www.ford.com.pr

If your vehicle must be serviced while you are traveling or living in the Middle East, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact:

FORD MOTOR COMPANY
Customer Relationship Center
1555 Fairlane Drive
Fairlane Business Park #3
Allen Park, Michigan 48101
U.S.A.

Ford: 80004443673

Lincoln: 80004441067

If calling from the UAE: 80004441066

If calling from the Kingdom of Saudi

Arabia: 8008443673

If calling from Kuwait: 22280384

FAX: +971 4 3327266

Email: menacac@ford.com

www.me.ford.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 Motor Company Export Operations & Global Growth Initiatives by emailing **expcac@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.**

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

(Items in this catalog may be purchased by credit card, check or money order.)

Customer Assistance

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)



E142557

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

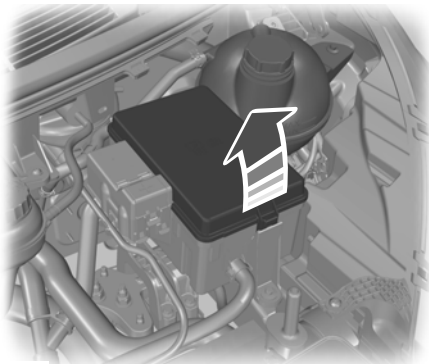
Transport Canada Contact Information	
Website	www.tc.gc.ca/eng/motorvehiclesafety/safevehicles-defectinvestigations-index-76.htm (English)
Website	www.tc.gc.ca/fra/securiteautomobile/VehiculesSecuritaires-Enquetes-index-76.htm (French)
Phone	1-800-333-0510

Ford of Canada Contact Information	
Website	www.ford.ca
Phone	1-800-565-3673

Fuses

FUSE BOX LOCATIONS

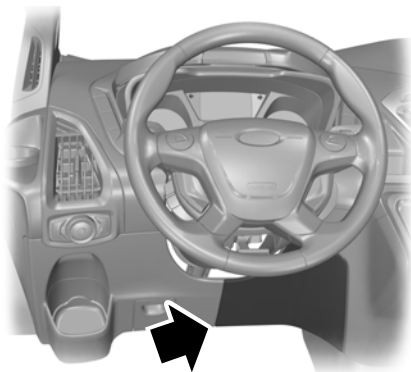
Engine Compartment Fuse Box



E146726

For item location: See **Under Hood Overview** (page 209).

Passenger Compartment Fuse Box



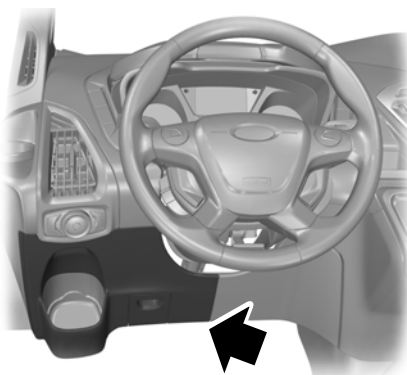
E152513

This is located behind the removable trim panel.

Pre-fuse Box

This is located under the driver's seat.

Body Control Module Fuse Box



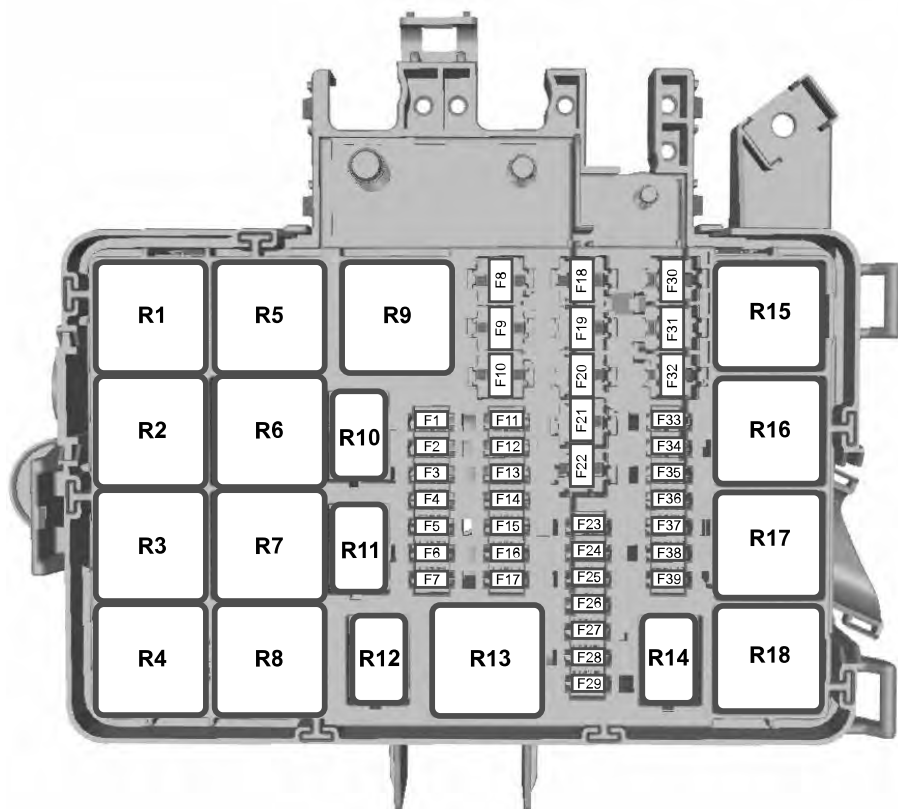
E152512

This is located behind the removable trim panel.

Fuses

FUSE SPECIFICATION CHART

Engine Compartment Fuse Box



E148826

Fuse	Fuse rating	Circuits protected
F1	10A	Selective Catalytic Reduction - Diesel.
F2	15A	Selective Catalytic Reduction - Diesel.
F3	15A	Selective Catalytic Reduction - Diesel.

Fuses

Fuse	Fuse rating	Circuits protected
F4	10A	Selective Catalytic Reduction - Diesel.
F5	3A	Diesel particulate filter vaporizer - Diesel. Glow plug monitor - Diesel.
F6	-	Not used.
F7	7.5A	Automatic transmission control module ignition feed.
F8	20A	Cooling fan - Gasoline.
F9	-	Not used.
F10	-	Not used.
F11	10A	Air conditioning clutch.
F12	20A	Diesel particulate filter vaporizer glow plug - Diesel.
F13	-	Not used.
F14	3A	Selective Catalytic Reduction - ignition - Diesel.
F15	-	Not used.
F16	10A	Fuel pump relay - Diesel.
	20A	Fuel pump relay - Gasoline.
F17	15A	Automatic transmission module (battery feed) - Diesel.
F18	30A	Anti-lock brake system. Stability assist pump - Diesel. Engine compartment fuse box #F16 - Gasoline. Engine compartment fuse box #F16, #F17 - Diesel.
F19	30A	Starter solenoid.
F20	60A	Glow plugs - Diesel.
F21	60A	Ignition relay 3.
F22	40A	Selective Catalytic Reduction relay feed.
	40A	Electric vacuum pump relay feed - Gasoline.
F23	10A	PROTECTED CIRCUIT FUSE.
F24	-	Not used.
F25	-	Not used.

Fuses

Fuse	Fuse rating	Circuits protected
F26	20A	PROTECTED CIRCUIT FUSE.
F27	-	Not used.
F28	7.5A	Crankcase sensor - Diesel.
F29	3A	Ignition feed - Audio - Gasoline.
	7.5A	Crank case ventilation heater - Diesel.
F30	60A	Single cooling fan - Diesel.
	40A	Twin cooling fan - Gasoline.
F31	40A	Twin cooling fan 2 - Gasoline.
F32	30A	Windshield wiper motor.
F32	60A	Windshield dual wiper motors - Gasoline.
F33	-	Not used.
F34	-	Not used.
F35	20A	Powertrain control system supply - Gasoline.
	15A	Powertrain control system supply - Diesel.
F36	20A	Mass air flow sensor - Gasoline.
	15A	PM sensor - Diesel. Urea quality sensor - Diesel. NOX sensor 1, 2 - Diesel.
F37	7.5A	Volume control valve - Diesel.
F38	20A	Air conditioning clutch - Gasoline.
	7.5A	Air conditioning clutch - Diesel.
F39	10A	UEGO, VAP PUMP, EBYPASS, EDF, HEDF - Gasoline.
	15A	UEGO, VAP PUMP, EBYPASS, EDF, HEDF - Diesel.

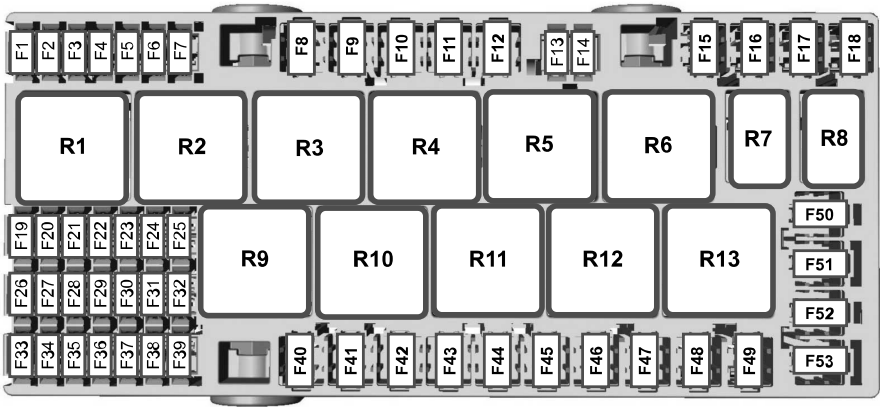
Relay	Circuits switched
R1	Ignition 3.
R2	Not used.
R3	Not used.

Fuses

Relay	Circuits switched
R4	Not used.
R5	Cooling fan - Gasoline.
R6	Windshield wiper - on and off.
R7	Windshield wiper - low and high speed.
R8	Electrical Vacuum Pump - Gasoline.
R9	Starter motor.
R10	Air conditioning clutch.
R11	Fuel vaporizer system glow plug - Diesel.
R12	Fuel injection pump.
R13	Not used.
R14	Not used.
R15	Low-speed and high-speed cooling fan.
R16	Selective Catalytic Reduction - Diesel.
R17	Powertrain control module.
R18	High speed cooling fan.

Fuses

Passenger Compartment Fuse Panel



E148827

Fuse	Fuse rating	Circuits protected
F1	10A	Airbag module.
F2	4A	Anti-lock brake system with electronic stability control. Parking brake.
F3	-	Not used.
F4	10A	Trailer tow back-up lamp relay.
F5	20A	Cutaway body connectors.
F6	-	Not used.
F7	-	Not used.
F8	40A	AC power outlet socket.
F9	30A	Trailer brake module.
F10	30A	Driver power seat.
F11	30A	Passenger power seat.
F12	30A	Trailer tow park lamp relay.

Fuses

Fuse	Fuse rating	Circuits protected
F13	25A	Anti-lock brake system with electronic stability control valves.
F14	5A	Powertrain control module B+ relay.
F15	40A	Powertrain control module power relay.
F16	40A	Body control module power feed.
F17	40A	Anti-lock brake system.
F18	40A	Modified vehicle connections.
F19	-	Not used.
F20	5A	Heated exterior mirror relay. Heated rear window.
F21	10A	Modified vehicle ignition connections.
F22	15A	Passenger compartment fuse panel (Body control module).
F23	7.5A	Air conditioning control module.
F24	10A	Cutaway body connectors.
F25	7.5A	Interior lighting. Power point relay control.
F26	10A	Heated exterior mirrors.
F27	20A	Heated rear window.
F28	20A	Heated rear window.
F29	10A	Rear parking aid camera. Lane keeping system. Electro mirror.
F30	-	Not used.
F31	10A	Trailer brake ignition feed.
F32	10A	Interior lighting.
F33	-	Not used.
F34	-	Not used.
F35	5A	Mirror switch. Driver's power window switch.

Fuses

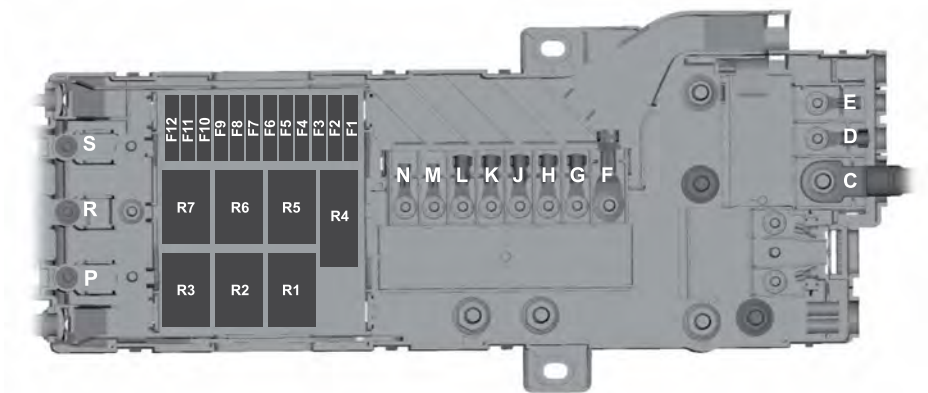
Fuse	Fuse rating	Circuits protected
F36	20A	Horn.
F37	7.5A	SYNC module. GPS module.
F38	5A	Blower motor relay. Horn relay. Windshield wiper relay.
F39	7.5A	Remote keyless entry. Rear heating, ventilation and air conditioning. Trailer tow backup relay coil. Park lamp relay coil.
F40	40A	Front blower motor.
F41	40A	Rear blower motor.
F42	40A	Heated rear window.
F43	30A	Trailer socket. Trailer tow module.
F44	60A	Auxiliary power points.
F45	40A	Trailer connectors B+ supply. Trailer tow module.
F46	30A	Power windows.
F47	20A	Cigar lighter socket.
F48	20A	Rear auxiliary power points.
F49	20A	Front auxiliary power points.
F50	60A	Ignition relay 1.
F51	-	Not used.
F52	40A	Modified vehicle connections.
F53	40A	Modified vehicle connections.

Fuses

Relay	Circuits switched
R1	Not used (spare).
R2	Auxiliary power points.
R3	Trailer tow parking lamp.
R4	Not used.
R5	Power windows.
R6	Ignition 1.
R7	Horn.
R8	Trailer tow back-up lamp.
R9	Front blower motor.
R10	Rear blower motor.
R11	Heated rear window. Heated exterior mirrors.
R12	Not used.
R13	Modified vehicle connections.

Fuses

Pre-fuse Box



E191034

Fusible link	Fusible link rating	Circuits protected
C	470A	Engine compartment fuse box. Starter motor. Alternator.
D	100A	Passenger compartment fuse panel. Body control module fuse box.
E	-	Not used.
F	200A	Passenger compartment fuse panel (SRBI BB3).
G	100A	Passenger compartment fuse panel (SRBI BB1).
H	80A	Auxiliary heater - Diesel.
J	80A	Modified vehicle connections (SRB F52 and F53).
K	100A	Engine junction box feed.
L	100A	Passenger compartment fuse panel.
M	60A	Passenger compartment fuse panel supply (Body control module).

Fuses

Fusible link	Fusible link rating	Circuits protected
N	60A	Passenger compartment fuse panel supply (Body control module).
P	60A	Auxiliary power point 1 (Customer connection point).
R	60A	Auxiliary power point 2 (Customer connection point).
S	60A	Auxiliary power point 3 (Customer connection point).

Auxiliary Fuse Panel (Upfitters)

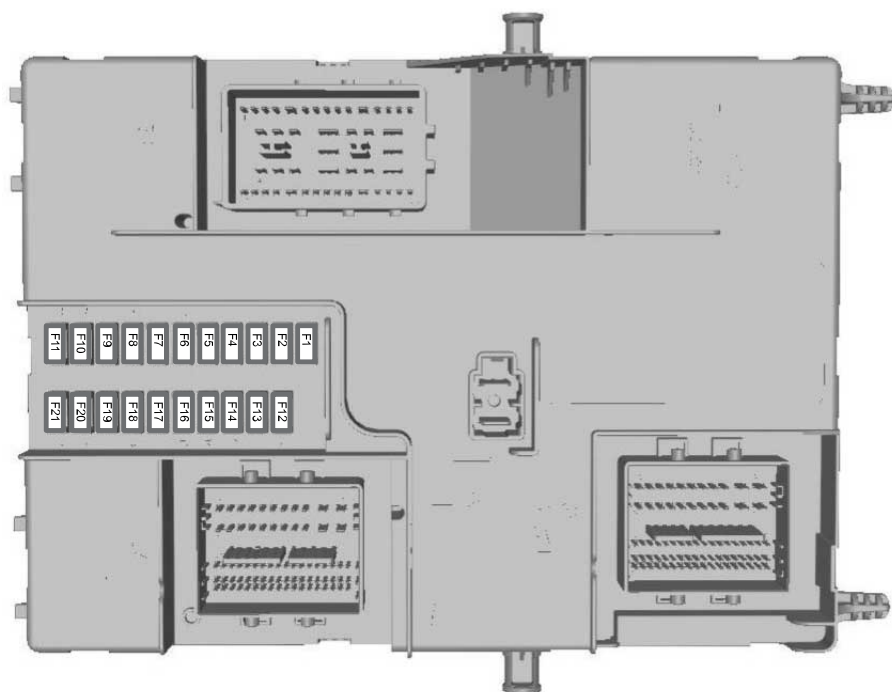
Fuse	Fuse rating	Circuits protected
F1	-	Not used.
F2	-	Not used.
F3	-	Not used.
F4	-	Not used.
F5	20A	R4 relay power.
F6	20A	R3 relay power.
F7	20A	R2 relay power.
F8	20A	R1 relay power.
F9	-	Not used.
F10	-	Not used.
F11	-	Not used.
F12	3A	Switch power.

Relay	Circuits switched
R1	Upfitter 1.
R2	Upfitter 2.
R3	Upfitter 3.
R4	Upfitter 4.

Fuses

Relay	Circuits switched
R5	Not used.
R6	Not used.
R7	Not used.

Body Control Module



E148830

Fuses

Fuse	Fuse rating	Circuits protected
F1	15A	Central locking system 2.
F2	15A	Central locking system 1.
F3	15A	Ignition switch.
F4	5A	Parking assist control module. Brake transmission shift interlock.
F5	5A	Rain sensor module.
F6	15A	Windshield washer pump.
F7	-	Not used.
F8	-	Not used.
F9	10A	Right-hand high beam.
F10	10A	Left-hand high beam.
F11	25A	Right-hand exterior lamps. Left-hand position lamps.
F12	-	Not used.
F13	15A	On-board diagnostic. Battery saver.
F14	25A	Turn signal indicator. Power windows delayed accessory. Lane departure sensor heated windshield pad.
F15	25A	Left-hand exterior lamps. Right-hand position lamps. High mounted stoplamp.
F16	20A	Audio unit. Navigation unit.
F17	7.5A	Instrument panel cluster. Heater control.
F18	10A	Headlamp switch module. Steering wheel module. Stoplamp switch supply.

Fuses

Fuse	Fuse rating	Circuits protected
F19	5A	Front control/display interface module.
F20	5A	Ignition passive anti-theft system.
F21	3A	Accessory relay, customer access feed.

CHANGING A FUSE

WARNINGS



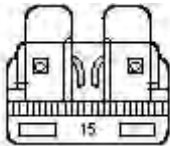
Do not modify the electrical system of your vehicle in any way. Have repairs to the electrical system and the replacement of relays and high current fuses carried out by an authorized dealer.



Switch the ignition and all electrical equipment off before attempting to change a fuse.



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.



E142430

If electrical components in your vehicle are not working, a fuse may have blown. A break in the fuse wire will indicate a blown fuse. Check the appropriate fuses before replacing any electrical components.

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 to park (P).
2. Switch off the engine.
3. Block the wheels.

Working with the Engine On

WARNING

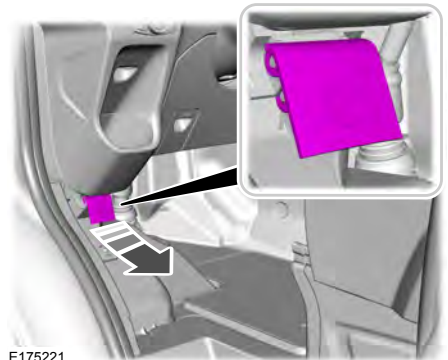


To reduce the risk of vehicle damage and/or personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

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

OPENING AND CLOSING THE HOOD

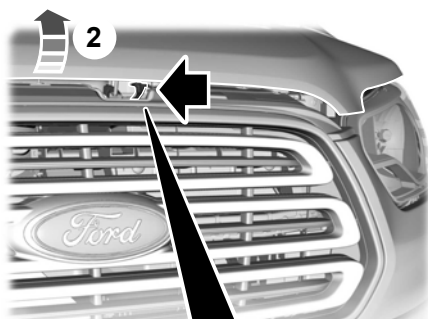
Opening the Hood



E175221

1. Pull the hood release lever.

Maintenance



E217707

2. Slightly lift the hood.
3. Move the catch to the left.



E87786

4. Open the hood. Support the hood with the strut.

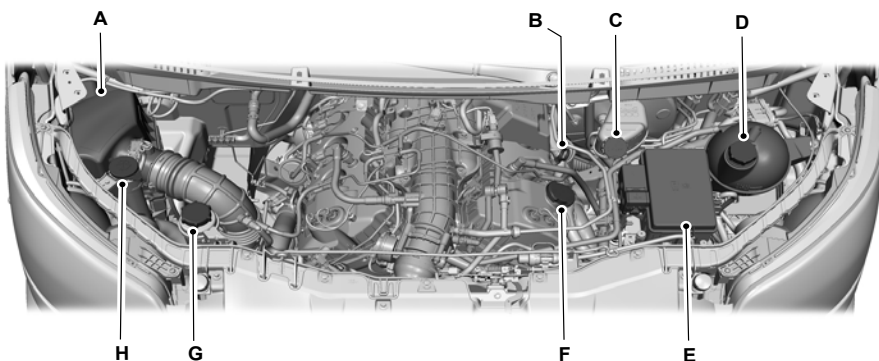
Closing the Hood

1. Remove the strut from the catch and secure it correctly in the clip.
2. Lower the hood and allow it to drop under its own weight for the last 8–12 in (20–30 cm).

Note: Make sure that the hood is correctly closed.

Maintenance

UNDER HOOD OVERVIEW - 3.5L



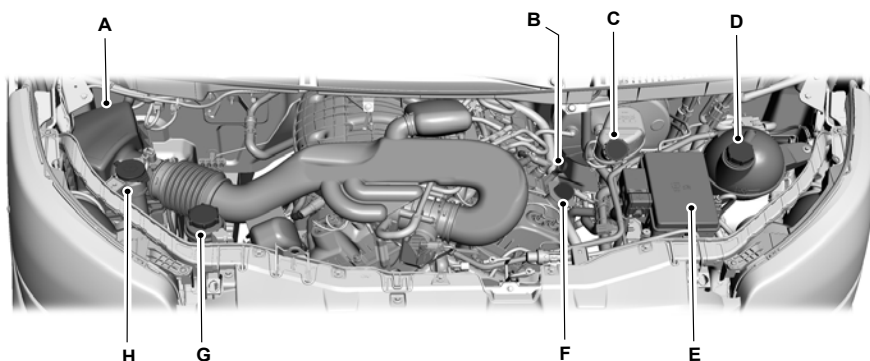
E174601

- A Air cleaner. See **Changing the Engine Air Filter** (page 232).
- B Engine oil dipstick*. See **Engine Oil Dipstick** (page 212).
- C Brake fluid reservoir*. See **Brake Fluid Check** (page 218).
- D Engine coolant reservoir*. See **Engine Oil Check** (page 212).
- E Engine compartment fuse box. See **Fuses** (page 193).
- F Engine oil filler cap*. See **Engine Oil Check** (page 212).
- G Power steering fluid reservoir*. See **Power Steering Fluid Check** (page 218).
- H Washer fluid reservoir*. See **Washer Fluid Check** (page 218).

* The filler caps and the engine oil dipstick are colored for easy identification.

Maintenance

UNDER HOOD OVERVIEW - 3.7L



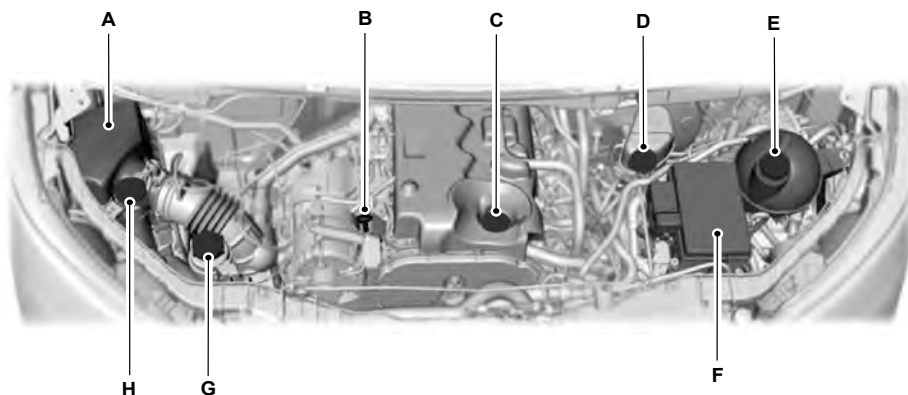
E174602

- A Air cleaner. See **Changing the Engine Air Filter** (page 232).
- B Engine oil dipstick*. See **Engine Oil Dipstick** (page 212).
- C Brake fluid reservoir*. See **Brake Fluid Check** (page 218).
- D Engine coolant reservoir*. See **Engine Oil Check** (page 212).
- E Engine compartment fuse box. See **Fuses** (page 193).
- F Engine oil filler cap*. See **Engine Oil Check** (page 212).
- G Power steering fluid reservoir*. See **Power Steering Fluid Check** (page 218).
- H Washer fluid reservoir*. See **Washer Fluid Check** (page 218).

* The filler caps and the engine oil dipstick are colored for easy identification.

Maintenance

UNDER HOOD OVERVIEW - 3.2L POWER STROKE DIESEL



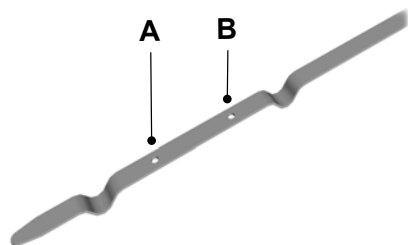
E174603

- A Air cleaner. See **Changing the Engine Air Filter** (page 232).
- B Engine oil dipstick*. See **Engine Oil Dipstick** (page 212).
- C Engine oil filler cap*. See **Engine Oil Check** (page 212).
- D Brake and clutch fluid reservoir*. See **Brake Fluid Check** (page 218).
- E Engine coolant reservoir*. See **Engine Coolant Check** (page 214).
- F Engine compartment fuse box. See **Fuses** (page 193).
- G Power steering fluid reservoir*. See **Power Steering Fluid Check** (page 218).
- H Washer fluid reservoir*. See **Washer Fluid Check** (page 218).

* The filler caps and the engine oil dipstick are colored for easy identification.

Maintenance

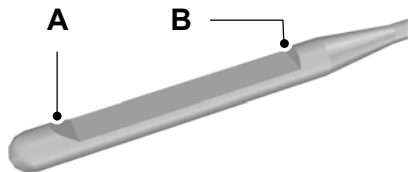
ENGINE OIL DIPSTICK - 3.5L



E174604

- A Minimum
- B Maximum

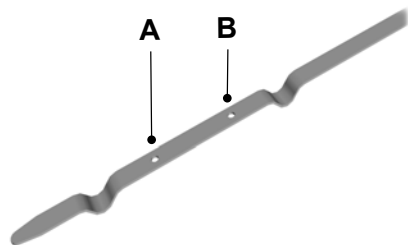
ENGINE OIL DIPSTICK - 3.2L POWER STROKE DIESEL



E71362

- A Minimum
- B Maximum

ENGINE OIL DIPSTICK - 3.7L



E174604

- A Minimum
- B Maximum

ENGINE OIL CHECK

1. Make sure that your vehicle is on level ground.
2. Switch off the engine and wait 10 minutes for the oil to drain into the oil pan.
3. Remove the dipstick and wipe it with a clean, lint free cloth. Replace the dipstick and remove it again to check the oil level.

If the oil level is at the minimum mark, add oil immediately. See **Capacities and Specifications** (page 274).

Note: Check the oil level before starting the engine.

Note: Make sure that the oil level is between the minimum and the maximum marks.

Note: Do not use oil additives or other engine treatments. Under certain conditions, they could damage the engine.

Note: The oil consumption of new engines reaches its normal level after approximately 3,000 mi (5,000 km).

Maintenance

Adding Engine Oil

WARNINGS



Only add oil when the engine is cold. If the engine is hot, wait 10 minutes for the engine to cool down.



Do not remove the filler cap when the engine is running.

1. Remove the engine oil filler cap.
2. Add engine oil that meets Ford specifications. See **Capacities and Specifications** (page 274).
3. Replace the engine oil filler cap. Turn it 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: Soak up any spillage with an absorbent cloth immediately.

CHANGING THE ENGINE OIL AND OIL FILTER

WARNINGS



Prolonged and repeated skin contact with mineral oil will result in the removal of natural fats from the skin, leading to dryness, irritation and dermatitis. In addition, used engine oil contains potentially harmful contaminants, which may cause skin cancer. If skin contact occurs, wash the area thoroughly with soap or skin cleanser and water immediately.



Do not dispose of engine oils or oil filters in the household refuse or the public sewage system. Use an authorized waste disposal facility.



Do not remove the oil pan drain plug when the engine is running.

WARNINGS



Do not remove the oil filter when the engine is running.

1. Remove the oil pan drain plug and wait for the oil to drain into a suitable container.
2. Renew the oil filter.
3. Reinstall the oil pan drain plug.
4. Refill the engine with new oil that meets Ford specifications. See **Capacities and Specifications** (page 274).

Note: Do not add oil further than the maximum mark. Oil levels above the maximum mark may cause engine damage.

Note: Soak up any spillage with an absorbent cloth immediately.

5. Reset the Intelligent Oil Life Monitor. See **Oil Change Indicator Reset** (page 214).

Engine Lubrication for Severe Service Operation

The following conditions define severe service operation. The Intelligent Oil Life Monitor will determine engine oil and oil filter change intervals.

- Frequent or extended idling.
- Frequent low-speed operation at 25 mph (40 km/h) or less.
- Frequent severe dust condition operation.
- Frequent off-road operation.
- Sustained ambient temperatures of -9°F (-23°C) or below.
- Sustained ambient temperatures of 100°F (38°C) or above.
- Sustained towing operation above 1,000 mi (1,600 km).

Maintenance

- Sustained high-speed driving at Gross Vehicle Weight Rating (maximum loaded weight for vehicle operation).
- Sustained use of diesel fuel other than ultra-low sulfur diesel (ULSD).

OIL CHANGE INDICATOR RESET

Resetting the Oil Life Monitoring System

Only reset the oil life monitoring system after changing the engine oil and oil filter.

1. Switch the ignition on. Do not start the engine. For vehicles with push-button start, press and hold the start button for two seconds without pressing the brake pedal. Do not start the engine.
2. Press the accelerator and brake pedals at the same time.
3. Keep the accelerator and brake pedals fully pressed.
4. After three seconds, a message confirming that the reset is in progress will be displayed.
5. After 25 seconds, a message confirming that the reset is complete will be displayed.
6. Release the accelerator and brake pedals.
7. The message confirming that the reset is complete will no longer be displayed.
8. Switch the ignition off. For vehicles with push-button start, press the start button to switch the ignition off.

ENGINE COOLANT CHECK

Checking the Engine Coolant

When the engine is cold, check the concentration and level of the engine coolant at the intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 363).

Note: Make sure that the 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.

Note: If the level is at the MIN mark, below the MIN mark, or empty, add coolant immediately. See **Adding Engine Coolant** in this chapter.

The coolant concentration should be maintained within 48% to 50%, which equates to a freeze point between -30°F (-34°C) and -34°F (-37°C).

Note: For best results, coolant concentration should be tested with a refractometer, for example Robinair® Coolant and Battery Refractometer 75240. We do not recommend the use of hydrometers or coolant test strips for measuring coolant concentrations.

Note: Automotive fluids are not interchangeable. Do not use engine coolant, antifreeze or windshield washer fluid outside of its specified function and vehicle location.

Adding Engine Coolant

WARNINGS



Do not add engine coolant when the engine is hot. Steam and scalding liquids released from a hot cooling system can burn you badly. Also, spilling coolant on hot engine parts can burn you.

Maintenance

WARNINGS



Do not put engine coolant in the windshield washer fluid reservoir. If sprayed on the windshield, engine coolant could make it difficult to see through the windshield.



Do not add coolant further than the MAX mark.



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 the cap is loosened slightly.

Note: Do not use stop leak pellets, cooling system sealants or additives as they can cause damage to the engine cooling or heating systems. The vehicle warranty does not cover this damage.

Note: During normal vehicle operation, the engine coolant may change color from orange to pink or light red. As long as the engine 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.

- Do not mix different colors or types of coolant in your vehicle. Make sure the correct coolant is used. Mixing of engine coolants may harm the engine's cooling system. The use of incorrect coolant may harm engine and cooling system components and may void the warranty. Use prediluted engine coolant meeting the Ford specification. See **Capacities and Specifications** (page 274).
- 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, you must have the cooling system drained, chemically cleaned with Motorcraft Premium Cooling System Flush, and refilled with engine coolant as soon as possible. Water alone (without engine coolant) can cause engine damage, for example corrosion, overheating or freezing.
- Do not use alcohol, methanol, brine or any engine coolants mixed with alcohol or methanol antifreeze. Alcohol and other liquids can cause engine damage, for example overheating or freezing.
- Do not add extra inhibitors or additives to the coolant. These can be harmful and compromise the corrosion protection of the engine coolant.

Unscrew the cap slowly. Any pressure will escape as you unscrew the cap.

Whenever you add coolant, check the coolant level in the coolant reservoir the next few times you drive the vehicle. If necessary, add enough prediluted engine coolant to bring the coolant level to the correct level.

Recycled Engine Coolant

We do not recommend the use of recycled engine coolant since a Ford-approved recycling process is not yet available.

Maintenance

Used engine coolant should be disposed of in an 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 have a Ford authorized dealer increase the coolant concentration above 50%.
- A coolant concentration of 60% will provide improved freeze point protection. Engine coolant concentrations above 60% will decrease the overheat protection characteristics of the engine coolant and may cause engine damage.

If you drive in extremely hot climates:

- It may be necessary to have a Ford authorized dealer decrease the coolant concentration to 40%.
- A coolant concentration of 40% will provide improved overheat protection. Engine coolant concentrations below 40% will decrease the corrosion and freeze protection characteristics of the engine coolant and may cause engine damage.

Vehicles driven year-round in non-extreme climates should use prediluted engine coolant for optimum cooling system and engine protection.

What You Should Know About Fail-Safe Cooling

If you deplete the engine coolant supply, this feature allows you to temporarily drive your vehicle before you incur incremental component damage. The fail-safe distance depends on ambient temperatures, vehicle load and terrain.

How Fail-Safe Cooling Works

If the engine begins to overheat, the engine coolant temperature gauge will move to the red area and:



The coolant temperature warning light will illuminate.



The service engine soon indicator will illuminate.

If the engine reaches a preset over-temperature condition, the engine will automatically switch to alternating cylinder operation. Each disabled cylinder acts as an air pump and cools the engine.

When this occurs the vehicle will still operate. However:

- The engine power will be limited.
- This will disable the air conditioning system.

Continued operation will increase the engine temperature and the engine will completely shut down, causing steering and braking effort to increase.

Once the engine temperature cools, the engine can be re-started. Take your vehicle to an authorized dealer as soon as possible to minimize engine damage.

When Fail-Safe Mode Is Turned On

WARNING



Fail-safe mode is for use during emergencies only. Operate the vehicle in fail-safe mode only as long as necessary to bring the vehicle to rest in a safe location and seek immediate repairs. When in fail-safe mode, the vehicle will have limited power, will not be able to maintain high-speed operation, and may completely shut down and lose power steering assist, and power brake assist, which may increase the possibility of a crash resulting in serious injury.

Maintenance

The engine is capable of completely shutting down automatically to prevent engine damage, if this situation occurs:

1. Stop your vehicle as soon as it is safe to do so and switch the ignition off.
2. Have your vehicle towed to an authorized dealer.
3. If this is not possible, wait a short period for the engine to cool.
4. Check the coolant level and replenish if low.
5. Re-start the engine and take your vehicle to an authorized dealer.

Note: *Driving the vehicle without repairing the engine problem increases the chance of engine damage. Take your vehicle to an authorized dealer as soon as possible.*

Engine Fluid Temperature Management (If Equipped)

WARNING



To reduce the risk of a 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 fluid temperature reduces.

When towing a trailer the vehicle's engine may temporarily reach a higher temperature during severe operating conditions, for example ascending a long or steep grade in hot ambient temperatures.

You may notice a reduction in vehicle speed caused by reduced engine power. The design of your vehicle allows it to enter this mode if certain high-temperature and high-load conditions take place in order to manage the engine fluid temperatures. The

amount of speed reduction will depend on the vehicle loading, towing, grade, ambient temperature and other factors. If this occurs, there is no need to pull off the road. You can continue to drive your vehicle while this message is active.

The air conditioning may also cycle on and off during severe operating conditions to protect overheating of the engine. When the engine coolant temperature decreases normal operating temperature, the air conditioning will turn on. If you notice any of the following:

- The engine coolant temperature gauge moves fully into the red area.
 - The coolant temperature warning light illuminates.
 - The service engine soon indicator illuminates.
1. Stop your vehicle as soon as it is safe to do so and place the vehicle in park (P).
 2. Leave the engine running until the coolant temperature gauge needle moves away from the red area. After several minutes, if this does not happen, follow the remaining steps.
 3. Switch the engine off and wait for it to cool before checking the coolant level.
 4. If the coolant level is normal, you may restart the engine and continue on.
 5. If the coolant is low, add coolant, restart the engine and take your vehicle to an authorized dealer.

AUTOMATIC TRANSMISSION FLUID CHECK

The automatic transmission does not have a transmission fluid dipstick.

Maintenance

Have an authorized dealer check and change the transmission fluid at the correct service interval. See **Scheduled Maintenance** (page 363). Your transmission does not consume fluid. However, if the transmission slips, shifts slowly or if you notice a sign of leaking fluid, contact an authorized dealer.

Do not use supplemental transmission fluid additives, treatments or cleaning agents. The use of these materials may affect transmission operation and result in damage to internal transmission components.

BRAKE FLUID CHECK

Fluid levels between the MIN and MAX lines are within the normal operating range; there is no need to add fluid. If the fluid levels are outside of the normal operating range, the performance of the system could be compromised; seek service from your authorized dealer immediately.

POWER STEERING FLUID CHECK

WARNING



Do not allow the fluid to touch your skin or eyes. This could cause serious personal injury. Rinse the affected areas immediately with plenty of water and consult a physician.

If the power steering fluid level is not between the **MAX** and **MIN** marks, add power steering fluid that meets the correct specification. See **Capacities and Specifications** (page 281).

Adding Power Steering Fluid

1. Remove the filler cap.

2. Add power steering fluid to the **MAX** mark. Do not overfill.
3. Replace the filler cap. Turn it until you feel a strong resistance.

WASHER FLUID CHECK

Note: *The reservoir supplies the front and rear washer systems.*

When adding fluid, use a mixture of washer fluid and water to help prevent freezing in cold weather and improve the cleaning capability. We recommend that you use only high quality washer fluid.

For information on fluid dilution, refer to the product instructions.

DRAINING THE FUEL FILTER WATER TRAP

WARNING



Do not dispose of fuel in the household refuse or the public sewage system. Use an authorized waste disposal facility.

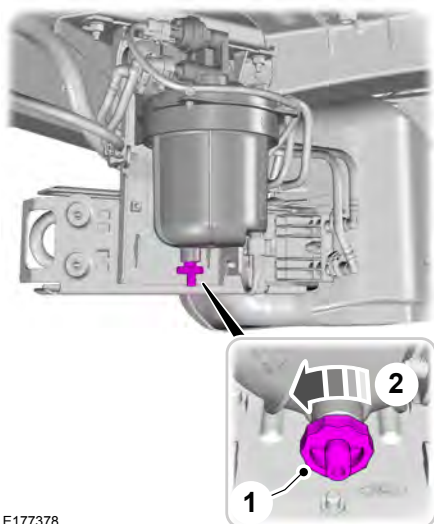
Your vehicle is fitted with a diesel fuel conditioner module located behind the fuel tank.



A warning lamp will illuminate and a message will be displayed when approximately 3.38 fl oz (100 ml) of water accumulates in the module. If you allow the water level to exceed this level, the water may pass through to the engine and may cause fuel injection equipment damage.

Note: *To drain the fuel filter water trap, access the underside of your vehicle.*

Maintenance



E177378

1. Attach a tube to the drain plug and place the end of the tube into a suitable container.
2. Loosen the drain plug by turning counterclockwise one to two turns and allow the water to drain.

Note: The drain plug will rise when opening.

3. Tighten the drain plug by turning clockwise until you feel a strong resistance.

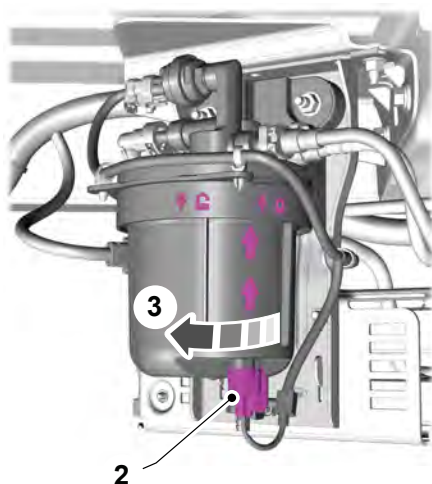
Note: The drain plug will lower when closing.

When you start the engine the water in fuel indicator lamp turns off after a short period of time.

Changing the Fuel Filter

Note: To drain the fuel filter, access the underside of your vehicle.

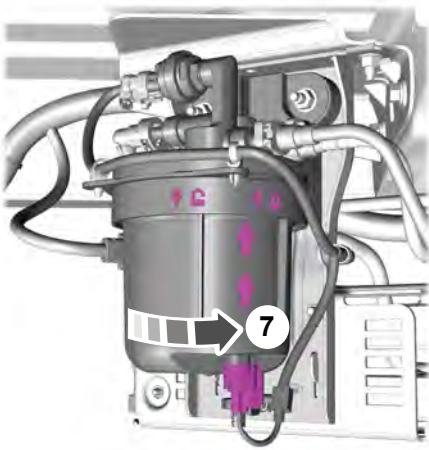
1. Drain the fuel from the filter housing.



E184430

2. Disconnect the electrical connector.
3. Rotate the housing counterclockwise to the unlock position.
4. Remove the housing and filter.
5. Replace the housing seal and lubricate.
6. Insert the new filter into housing and refit aligning the arrows in the unlock position.

Maintenance



E184789

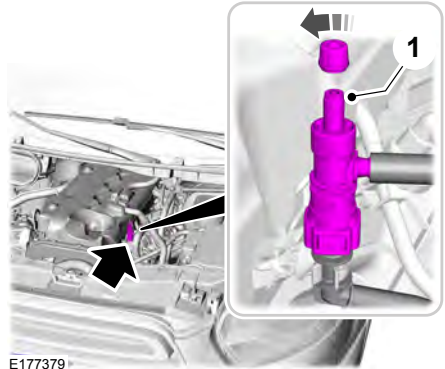
7. Rotate the housing clockwise aligning the arrows in the lock position.
8. Purge air from the system.

Note: Only add fuel that meets the Ford specification. See **Fuel and Refueling** (page 113).

Purging Air From the Fuel System

1. Switch the ignition on for at least 30 seconds then switch the ignition off.
2. Repeat this process six times.
3. Start the engine and maintain engine speed at 1500 RPM.
4. Wait 20 seconds.
5. If the engine is running smoothly, reduce the engine speed to idle.
6. Check for leaks.
7. Switch the ignition off.

If the Engine Does Not Start or Runs Rough



E177379

1. Remove the Schrader valve cap.
2. Attach suitable tool with a tube to the Schrader valve and place the end of the tube into a suitable container.
3. Open the Schrader valve.
4. Switch the ignition on until a steady stream of fuel can be seen coming out of the tube.
5. Switch the ignition off.
6. Remove the tool from the Schrader valve.
7. Refit the Schrader valve cap.
8. Switch the ignition on for at least 30 seconds then switch the ignition off.
9. Repeat this process three times.
10. Start the engine.

FUEL FILTER - GASOLINE

Your vehicle is equipped with a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.

Maintenance

CHANGING THE 12V BATTERY

Removing the Battery

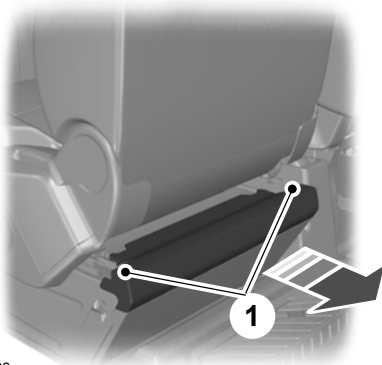
WARNINGS

-  You must replace your vehicle battery with one of exactly the same specification.
-  Make sure the battery box is correctly sealed.
-  Your vehicle battery is heavy; take care when lifting and removing.

Note: If you have power seats and the battery has no charge, jump-start your vehicle to move the seat. See **Jump Starting the Vehicle** (page 182).

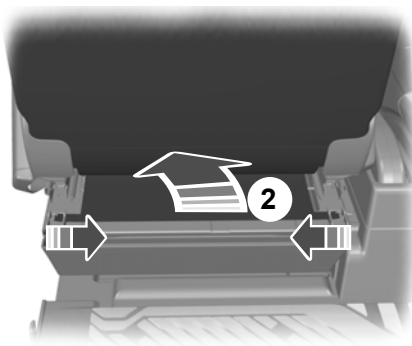
Note: Where applicable you must reprogram the audio system using the keycode.

The battery is located inside your vehicle under the driver seat.



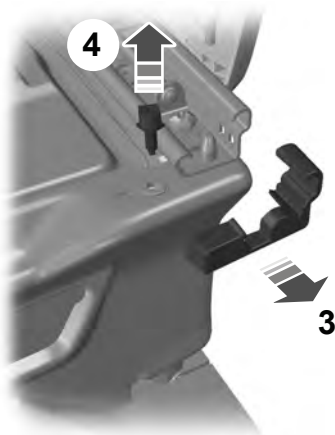
E152526

1. Fully raise the driver seat and slide the seat fully forward. Remove the cover trim by pulling up the tabs with your fingers.



E152529

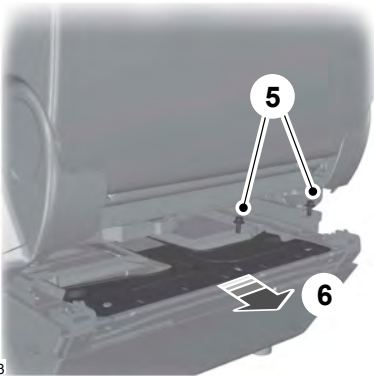
2. Unhook the cover flap and tuck it under the seat valance.



E146781

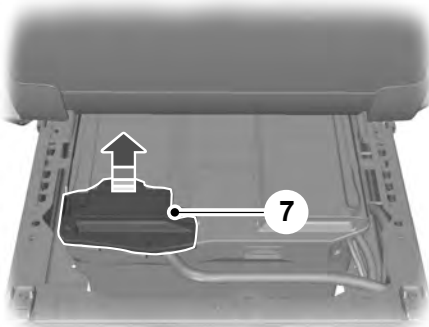
3. Remove the seat track end caps on both sides.
4. Remove the seat adjustment end stop bolts at the front of the seat on both sides.

Maintenance



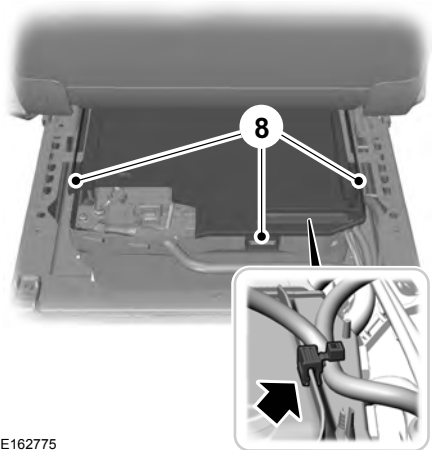
E146773

5. Remove the battery clamp and cover bolts.
6. Remove the battery clamp and cover.



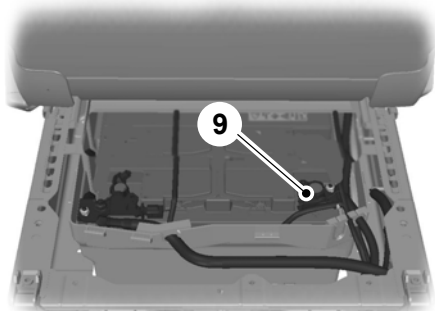
E162774

7. Remove the battery terminal cover and remove the negative (-) terminal.



E162775

8. Remove the cable securing clips from the cover. Release the retaining clips and remove the cover.



E162776

9. Remove the positive (+) terminal and remove the battery.
10. Move the second battery toward the rear of the vehicle. Disconnect the battery terminals and remove the battery.

Maintenance

Note: Single batteries are mounted the opposite way around in the battery tray. The negative terminal is toward the rear of the vehicle.

Installing the Battery

WARNING



Make sure that you securely fasten the seat runner bolts before installing the covers.

Install in the reverse order.

CHECKING THE WIPER BLADES



E142463

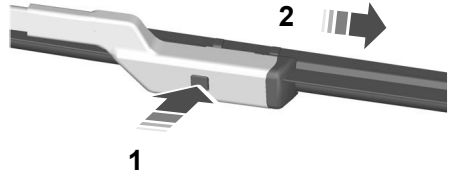
Run the tip of your fingers over the edge of the blade to check for roughness.

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

CHANGING THE WIPER BLADES

Changing the Windshield Wiper Blades

Lift the wiper arm.



E72899

1. Press the locking button.
2. Remove the wiper blade.
3. Install in the reverse order. Make sure that the wiper blade locks into place.

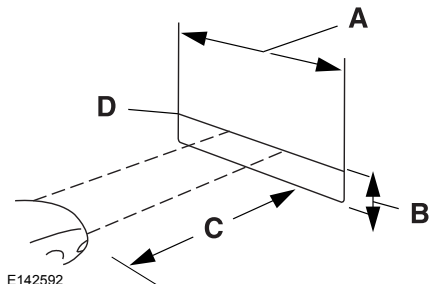
Note: The windshield wiper blades are different in length. If you install wiper blades of the wrong length, the rain sensor may not work correctly.

ADJUSTING THE HEADLAMPS

Vertical Aim Adjustment

If your vehicle has been involved in a crash, have the aim of the headlamp beam checked by an authorized dealer.

Headlamp Aiming Target



E142592

A 8 ft (2.4 m)

B Ground to the center of the headlamp low beam bulb

Maintenance

- C 25 ft (7.6 m)
- D Horizontal reference line

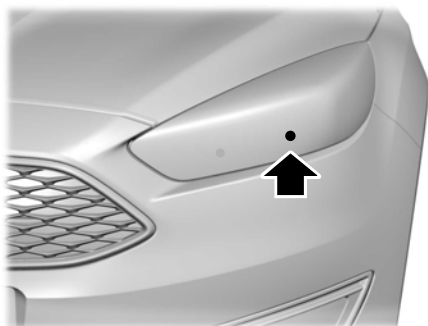
Vertical Aim Adjustment Procedure

1. Park your vehicle on level ground approximately 25 ft (7.6 m) from a wall or screen.
2. Measure the distance from the ground to the center of the headlamp low beam bulb and mark an 8 ft (2.4 m) long horizontal reference line on the wall or screen at this height.



E142465

4. On the wall or screen you will observe a flat zone of high intensity light located at the top of the beam pattern. If the top edge of the flat zone of high intensity light is not on the horizontal reference line, adjust the aim of the headlamp beam.

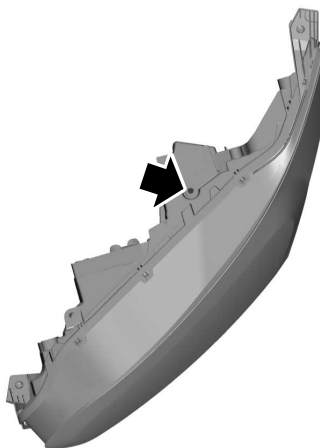


E199411

Note: There may be an identifying mark on the lens to help you locate the center of the bulb.

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

3. Switch on the low beam headlamps and open the hood.



E164485

Maintenance

5. Locate the vertical adjuster on each headlamp. Use a suitable tool, for example a screwdriver or hexagonal socket, to turn the adjuster clockwise or counterclockwise to adjust the vertical aim of the headlamp. The horizontal edge of the brighter light should touch the horizontal reference line.
6. Close the hood and switch off the lamps.

Horizontal Aim Adjustment

The horizontal aim of the headlamp beam on your vehicle is not adjustable.

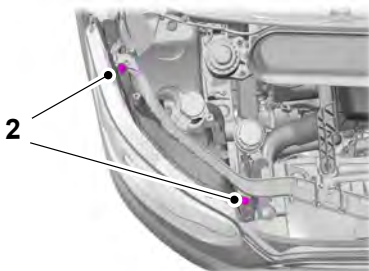
REMOVING A HEADLAMP

WARNING



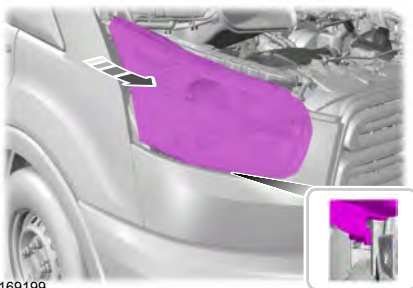
Switch all of the lamps and the ignition off. Failure to follow this warning could result in serious personal injury.

1. Open the hood. See **Opening and Closing the Hood** (page 207).



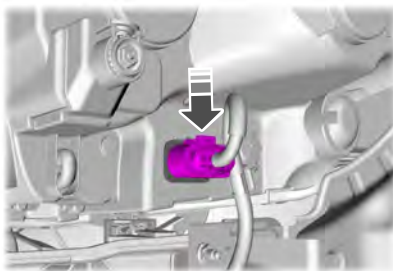
E169198

2. Remove the screws.



E169199

3. Pull the headlamp toward the front of your vehicle to disengage it from its locating points and then lift the headlamp up.



E169200

4. Disconnect the electrical connectors.

Note: When you install the headlamp, make sure that you correctly attach the electrical connector.

Note: When you install the headlamp, make sure that you correctly engage its locating points.

CHANGING A BULB

WARNINGS



Switch all of the lamps and the ignition off. Failure to follow this warning could result in serious personal injury.

Maintenance

WARNINGS



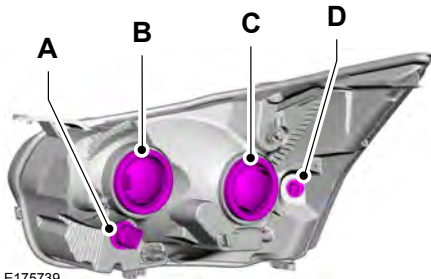
Bulbs become hot when in use. Let them cool down before you remove them.

Use the correct specification bulb. See **Bulb Specification Chart** (page 230).

The following instructions describe how to remove the bulbs. Install in the reverse order unless otherwise stated.

Note: LED lamps are not serviceable. See an authorized dealer.

Headlamp

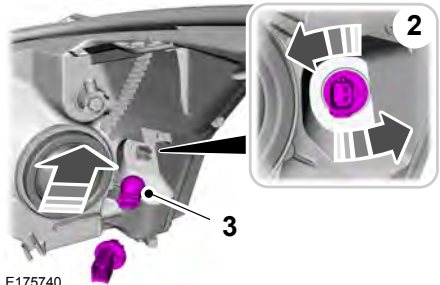


E175739

- A Parking lamp and direction indicator lamp.
- B Headlamp high beam.
- C Headlamp low beam and daytime running lamp.
- D Side marker lamp.

Note: You may have to remove a cover to gain access to the bulb.

Side Marker Lamp



E175740

1. Remove the headlamp. See **Removing a Headlamp** (page 225).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.

Parking Lamp and Direction Indicator Lamp

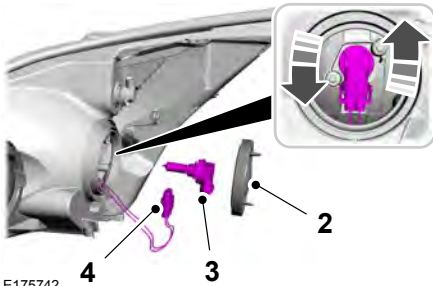


E175741

1. Remove the headlamp. See **Removing a Headlamp** (page 225).
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.

Maintenance

Headlamp Low Beam and Daytime Running Lamp



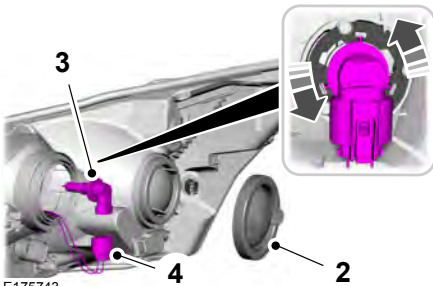
E175742

1. Remove the headlamp. See **Removing a Headlamp** (page 225).
2. Remove the cover.
3. Turn the bulb counterclockwise and remove it.
4. Disconnect the electrical connector.

Note: Do not touch the bulb glass.

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

Headlamp High Beam



E175743

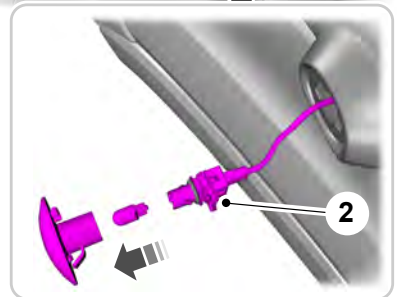
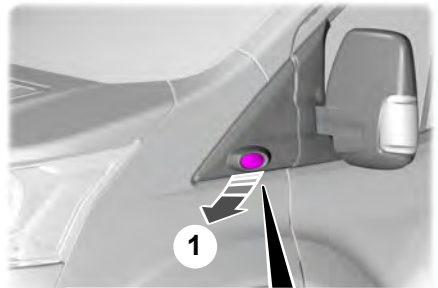
1. Remove the headlamp. See **Removing a Headlamp** (page 225).
2. Remove the cover.
3. Turn the bulb counterclockwise and remove it.

4. Disconnect the electrical connector.

Note: Do not touch the bulb glass.

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

Front Clearance Lamp (If Equipped)

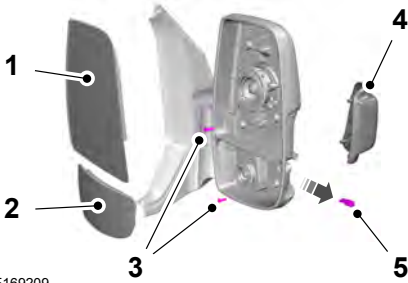


E181397

1. Carefully remove the lamp.
2. Turn the bulb holder counterclockwise and remove it.
3. Remove the bulb by pulling it straight out.

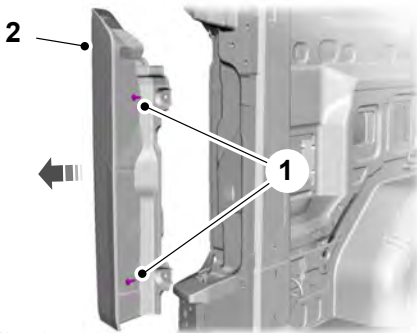
Maintenance

Side Direction Indicator (If Equipped)



1. Remove the large mirror glass. Tilt the mirror glass fully up, pull the mirror glass toward you from the bottom.
2. Remove the small mirror glass. Tilt the mirror glass fully down, pull the mirror glass toward you from the top.
3. Remove the screws.
4. Remove the lamp lens.
5. Remove the bulb.

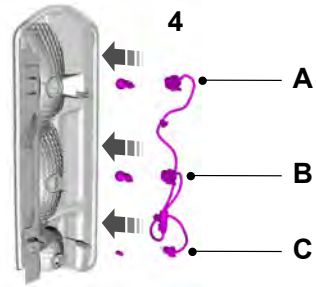
Rear Lamps



1. Remove the screws.
2. Remove the lamp.



3. Turn the bulb holder counterclockwise and remove it.



- A Tail and brake lamp.
- B Reversing lamp.
- C Rear clearance lamp.

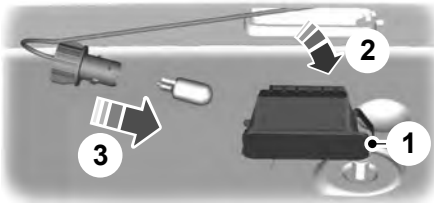
4. Remove the bulb by pulling it straight out.

Central High Mounted Brake Lamp

This is not a serviceable item, see an authorized dealer if it fails.

Maintenance

License Plate Lamp

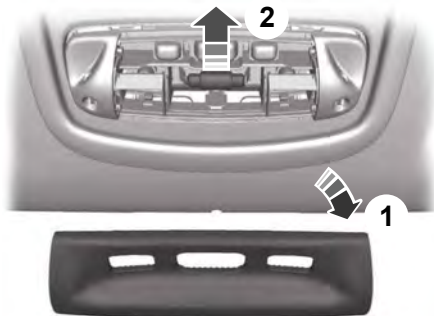


E72789

1. Carefully release the spring clip.
2. Remove the lamp.
3. Turn the bulb holder counterclockwise and remove it. Pull the bulb straight out.

Interior Lamp

Vehicles with Interior Sensors

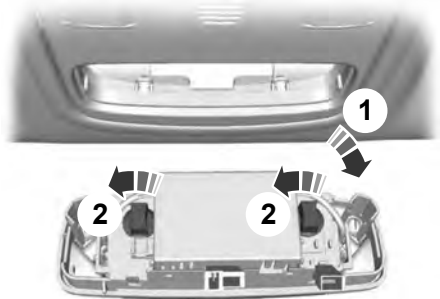


E154370

1. Carefully remove the lens.
2. Remove the bulb.

Reading Lamps

Vehicles with Interior Sensors



E72786

1. Carefully remove the lamp.
2. Turn the bulb holder counterclockwise and remove it.

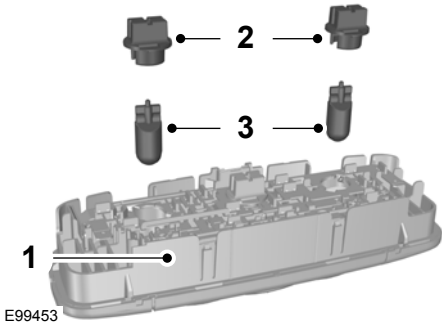


E73939

3. Remove the bulb.

Maintenance

Vehicles without Interior Sensors

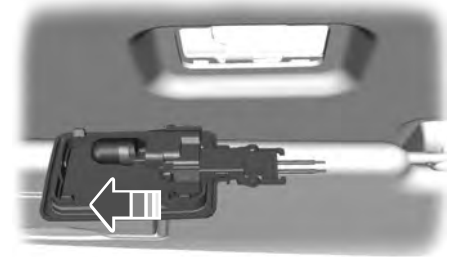


E99453

1. Carefully remove the lamp.
2. Turn the bulb holder counterclockwise and remove it.

3. Remove the bulb.

Sun Visor Mirror Lamp



E72785

1. Carefully remove the lamp.
2. Remove the bulb.

BULB SPECIFICATION CHART

Exterior Lamps

Lamp	Specification	Power (Watt)
Front side marker lamp.	168	5
Front I.D. lamp.	W5W	5
Headlamp low beam and Daytime running lamp.	H11	55
Headlamp high beam.	9005	60
Front direction indicator.	3457NAK	21
Side direction indicator.	W5W	5
Front clearance lamp (Exterior mirror).	W5W	5
Brake, rear and direction indicator lamp.	3057K	26/6
Rear clearance lamp.	168	5

Maintenance

Lamp	Specification	Power (Watt)
Reversing lamp.	3057K	26
License plate lamp.	W5W	5

Note: *If your vehicle is fitted with LED lamps these are not serviceable items, see an authorized dealer if they fail.*

Interior Lamps

Lamp	Specification	Power (watt)
Front interior lamp.	W6W	6
Front interior lamp. Vehicles with category 1 alarm.	Festoon	6
Map lamp.	W6W	6
Side door entrance lamp.	211 Festoon	10
Luggage compartment lamp.	211 Festoon	10

Note: *If your vehicle is fitted with LED lamps these are not serviceable items, see an authorized dealer if they fail.*

Maintenance

CHANGING THE ENGINE AIR FILTER

WARNING

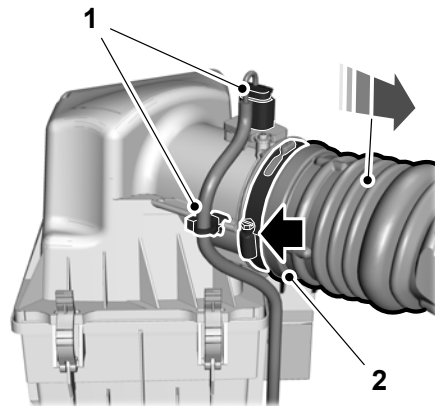


To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

Only use the specified replacement air filter. See **Capacities and Specifications** (page 274).

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.

Change the air filter element at the correct interval. See **Scheduled Maintenance** (page 363).

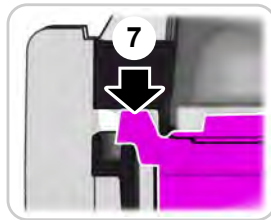
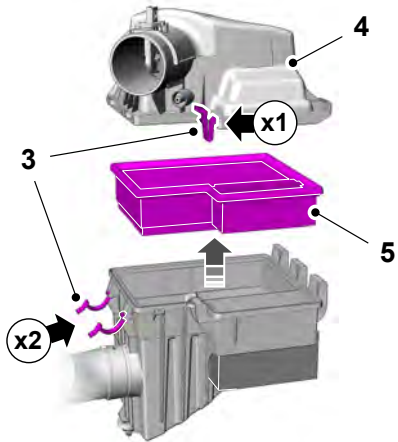


E211558

1. Disconnect the electrical connector from the sensor and the cable from the air filter cover.

Note: Vehicles with 3.2L or 3.5L engine only.

2. Clean the area around the air tube and air filter cover connection. Loosen the air tube clamp, it is not necessary to completely remove the clamp. Remove the air tube off from the air filter housing cover.



E212356

3. Remove the clips that secure the air filter housing cover.
- Note:** To unlatch the molded clip (x1) on the air filter housing cover, push it backward.
4. Carefully lift the air filter housing cover.
5. Remove the air filter element from the air filter housing.

Maintenance

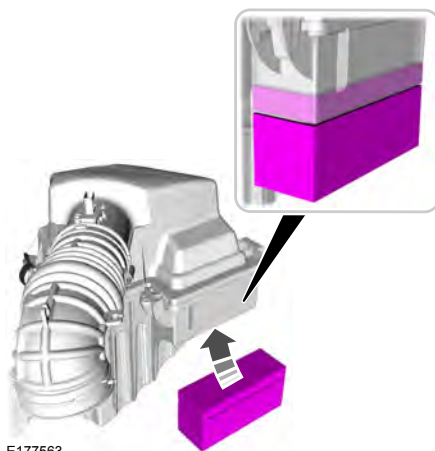
6. Wipe any dirt or debris from the air filter housing and cover to make sure no dirt gets in the engine and that you have a good seal.
7. Install a new air filter element. Be careful not to crimp the filter element edges between the air filter housing and cover.
8. Install the air filter housing cover.

Note: Make sure the front clips are fully engaged and the molded clip on the air filter housing cover is fully pushed down and securely clicks into place.

9. Install the air tube onto the air filter cover. Tighten the air tube clamp until you feel a strong resistance.
10. Reconnect the electrical connector to the sensor and the cable to the air filter cover.

Secondary Foam Air Filter (If Equipped)

If you operate your vehicle in heavy snow, we recommend that you clear any snow or ice from the secondary foam air filter every 200 mi (320 km). Do not permanently remove the secondary foam air filter.



E177563

The secondary foam air filter must be in place when the engine is running.

Vehicle Care

CLEANING PRODUCTS

For best results, use the following products or products of equivalent quality:

- Motorcraft Bug and Tar Remover (ZC-42)
- Motorcraft Custom Bright Metal Cleaner (ZC-15)
- Motorcraft Detail Wash (ZC-3-A)
- Motorcraft Dusting Cloth (ZC-24)
- Motorcraft Engine Shampoo and Degreaser (U.S. only) (ZC-20)
- Motorcraft Engine Shampoo (Canada only) (CXC-66-A)
- Motorcraft Multi-Purpose Cleaner (Canada only) (CXC-101)
- Motorcraft Premium Glass Cleaner (Canada only) (CXC-100)
- Motorcraft Premium Quality Windshield Washer Fluid (Canada only) [CXC-37-(A, B, D or F)]
- Motorcraft Premium Windshield Wash Concentrate with Bitterant (U.S. only) (ZC-32-B2)
- Motorcraft Professional Strength Carpet & Upholstery Cleaner (ZC-54)
- Motorcraft Premium Leather and Vinyl Cleaner (ZC-56)
- Motorcraft Spot and Stain Remover (U.S. only) (ZC-14)
- Motorcraft Ultra-Clear Spray Glass Cleaner (ZC-23)
- Motorcraft Wheel and Tire Cleaner (ZC-37-A)

CLEANING THE EXTERIOR

Note: If you use a car wash with a waxing cycle, make sure that you remove the wax from the windshield and the wiper blades.

Note: Prior to using a car wash facility check the suitability of it for your vehicle.

Note: Some car washes use water at high pressure. Due to this, water droplets may enter inside your vehicle and could also damage certain parts of your vehicle.

Note: Remove the aerial before using an automatic car wash.

Note: Switch the heater blower off to prevent contamination of the fresh air filter.

We recommend that you wash your vehicle with a sponge and lukewarm water containing a car shampoo.

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.

Cleaning the Rear Window

Note: Do not scrape the inside of the rear window or use abrasives or chemical solvents to clean it.

Use a clean, lint free cloth or a damp chamois leather to clean the inside of the rear window.

Cleaning the Chrome Trim

Note: Do not use abrasives or chemical solvents. Use soapy water.

Note: Do not apply cleaning product to hot surfaces and do not leave cleaning product on chrome surfaces for a period of time exceeding that which is recommended.

Note: Industrial-strength (heavy-duty) cleaners, or cleaning chemicals, may cause damage over a period of time.

Body Paintwork Preservation

WARNINGS



Do not polish your vehicle in strong sunshine.

Vehicle Care

WARNINGS



Do not allow polish to touch plastic surfaces. It could be difficult to remove.



Do not apply polish to the windshield or rear window. This could cause the wipers to become noisy and they may not clear the window properly.

We recommend that you wax the paintwork once or twice a year.

Sliding Door Tracks (If Equipped)

WARNING



Do not open or close the sliding doors when your hands are near the tracks or rollers.

To clean the sliding door tracks, wipe the surface using a clean, cotton cloth with a mild soap and water solution.

Do not use high-pressure washing.

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.

Vehicle Care

- Never wash or rinse any ignition coil, spark plug wire or spark plug well, or the area in and around these locations.
- Cover the battery, power distribution box, and air filter assembly to prevent water damage when cleaning the engine.

CLEANING THE WINDOWS AND WIPER BLADES

Car wash chemicals and environmental fallout can result in windshield and wiper blade contamination. Dirty windshield and wipers will result in poor windshield wiper operation. Keep the windshield and wiper blades clean to maintain windshield wiper performance.

To clean the windshield and wiper blades:

- Clean the windshield with a non-abrasive glass cleaner. When cleaning the interior of the windshield, avoid getting any glass cleaner on the instrument panel or door panels. Wipe any glass cleaner off these surfaces immediately.
- For windshields contaminated with tree sap, chemicals, wax or bugs, clean the entire windshield using steel wool (no greater than 0000 grade) in a circular motion and rinse with water.
- Clean the wiper blades with isopropyl rubbing alcohol or windshield washer concentrate.

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

CLEANING THE INTERIOR

Note: Do not allow air fresheners and hand sanitizers to spill on interior surfaces. If a spill occurs, wipe off immediately. Damage may not be covered by your warranty.

Seatbelts

Note: Do not use abrasives, or chemical solvents to clean them.

Note: Do not allow moisture to penetrate the seatbelt retractor mechanism.

Note: Cleaning may safely be carried out using mild soap and water. Let them dry naturally, away from artificial heat.

Instrument Cluster Screens, LCD Screens and Radio Screens

Note: Do not use abrasives, alcoholic solvents or chemical solvents to clean the instrument cluster screens, LCD screens or radio screens. These cleaning products can damage the screens.

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.

Rear Windows

Note: Do not use any abrasive materials to clean the interior of the rear windows.

Note: Do not install stickers or labels to the interior of the rear windows.

Vehicle Care

CLEANING THE INSTRUMENT PANEL AND INSTRUMENT CLUSTER LENS

WARNING



Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the airbag system.

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

Clean the instrument panel and cluster lens with a clean, damp and soft cloth, then use a clean, dry and soft cloth to dry these areas.

- Avoid cleaners or polishes that increase the gloss of the upper portion of the instrument panel. The dull finish in this area helps protect you from undesirable windshield reflection.
- Do not use any household cleaning products or glass cleaners as these may damage the finish of the instrument panel, interior trim and cluster lens.
- Wash or wipe your hands clean if you have been in contact with certain products such as insect repellent and suntan lotion to avoid possible damage to the interior painted surfaces.
- Do not allow air fresheners and hand sanitizers to spill onto interior surfaces. If a spill occurs, wipe off immediately. Your warranty may not cover these damages.

If a staining liquid like coffee or juice has been spilled on the instrument panel or on interior trim surfaces:

1. Wipe up spilled liquid using a clean, soft cloth as quickly as possible.
2. Use Motorcraft Premium Leather and Vinyl Cleaner or a commercially available leather cleaning product for automotive interiors. Test any cleaner or stain remover on an inconspicuous area.
3. Alternatively, wipe the surface with a clean, soft cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
4. If necessary, apply more soap and water solution or cleaning product to a clean, soft cloth and press it onto the soiled area. Allow this to set at room temperature for 30 minutes.
5. Remove the soaked cloth, then with a clean, damp cloth, use a rubbing motion for 60 seconds on the soiled area.
6. Dry the area with a clean, soft cloth.

REPAIRING MINOR PAINT DAMAGE

You should repair paintwork damage caused by stones from the road or minor scratches as soon as possible. A choice of products are available from an authorized dealer.

Remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout before repairing paint chips.

Always read and follow the manufacturer's instructions before using the products.

CLEANING THE ALLOY WHEELS

Note: Do not apply a cleaning chemical to warm or hot wheel rims and covers.

Vehicle Care

Note: Some automatic car washes may cause damage to the finish on your wheel rims and covers.

Note: Industrial-strength or heavy-duty cleaners in combination with brush agitation to remove brake dust and dirt, could wear away the clear coat finish over a period time.

Note: Do not use hydrofluoric acid-based or high caustic-based wheel cleaners, steel wool, fuels or strong household detergents.

Note: If you intend 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 will reduce the risk of increased corrosion of the brake discs.

Alloy wheels and wheel covers are coated with a clear coat paint finish. To maintain their condition we recommend that you:

- Clean the wheels weekly using Motorcraft Wheel and Tire Cleaner. Apply using manufacturer's instructions.
- Use a sponge to remove heavy deposits of dirt and brake dust accumulation.
- Rinse thoroughly with a strong stream of water when you have completed the cleaning process.
- To remove tar and grease, use Motorcraft Bug and Tar Remover.

VEHICLE STORAGE

If you plan on storing your vehicle for 30 days or more, read the following maintenance recommendations to make sure your vehicle stays in good operating condition.

We engineer and test all motor vehicles and their components for reliable, regular driving. Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve engine components.

General

- Store all vehicles in a dry, ventilated place.
- Protect from sunlight, if possible.
- If vehicles are stored outside, they require regular maintenance to protect against rust and damage.

Body

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear-wheel housing and the underside of front fenders.
- Periodically wash your vehicle if it is stored in exposed locations.
- Touch-up exposed or primed metal to prevent rust.
- Cover chrome and stainless steel parts with a thick coat of auto wax to prevent discoloration. Re-wax as necessary when you wash your vehicle.
- Lubricate all hood, door and luggage compartment hinges and latches with a light grade oil.
- Cover interior trim to prevent fading.
- Keep all rubber parts free from oil and solvents.

Vehicle Care

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.
- 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.

Vehicle Care

Contact an authorized dealer if you have any concerns or issues.

Wheels and Tires

GENERAL INFORMATION

Notice to Utility Vehicle, Van and Truck Owners

WARNINGS



Utility vehicles have a significantly higher rollover rate than other types of vehicles. To reduce the risk of serious injury or death from a rollover or other crash you must avoid sharp turns and abrupt maneuvers, drive at safe speeds for the conditions, keep tires properly inflated, never overload or improperly load your vehicle, and make sure every passenger is properly restrained.



In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seat belt. All occupants must wear seat belts. Children and infants must use appropriate restraints to minimize the risk of injury or ejection.

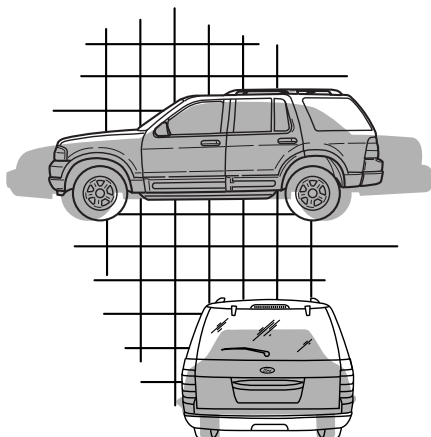


E145298

Utility vehicles and trucks handle differently than passenger cars in the various driving conditions that are encountered on streets, highways and off-road. Utility vehicles and trucks are not designed for cornering at speeds as high as passenger cars any more than low-slung sports cars are designed to perform satisfactorily under off-road conditions.

How Your Vehicle Differs from Other Vehicles

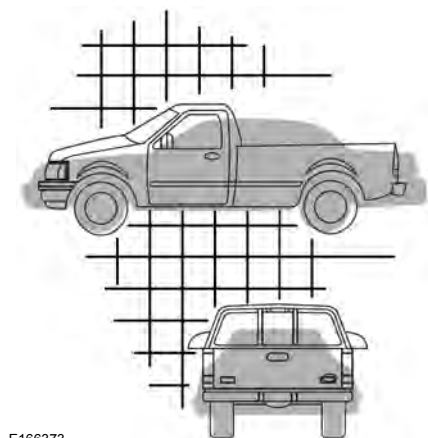
Sport-utility vehicles, vans and trucks can differ from some other vehicles in a few noticeable ways. Your vehicle may be:



E145299

Wheels and Tires

- Higher - to allow higher load carrying capacity and to allow it to travel over rough terrain without getting hung up or damaging underbody components.
- Shorter - to give it the capability to approach inclines and drive over the crest of a hill without getting hung up or damaging underbody components. All other things held equal, a shorter wheelbase may make your vehicle quicker to respond to steering inputs than a vehicle with a longer wheelbase.
- Narrower - to provide greater maneuverability in tight spaces, particularly in off-road use.



E166373

As a result of the above dimensional differences, sport-utility vehicles, vans and trucks often will have a higher center of gravity and a greater difference in center of gravity between the loaded and unloaded condition.

These differences that make your vehicle so versatile also make it handle differently than an ordinary passenger car.

TIRE CARE

Information About Uniform Tire Quality Grades



E142542

Tire Quality Grades apply to new pneumatic passenger car tires. The tire 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.** They do not apply to deep tread, winter-type snow tires, space-saver or temporary use spare tires, light truck or LT type tires, tires with nominal rim diameters of 10 to 12 inches or limited production tires as defined in Title 49 Code of Federal Regulations Part 575.104 (C)(2).

Tire Quality Grades are determined by standards that the United States Department of Transportation has set.

Wheels and Tires

United States Department of Transportation Tire Quality Grades

The United States of America Department of Transportation requires Ford Motor Company to give you the following information about tire grades exactly as the government has written it.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear 1½ times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

Traction AA A B C

WARNING



The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

Temperature A B C

WARNING



The temperature grade for this tire is established for a tire that is correctly inflated and not overloaded. Excessive speed, under-inflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the

Wheels and Tires

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 OE (Original Equipment) tire sizes, recommended inflation pressure and the maximum weight the vehicle can carry.
- **Tire Identification Number (TIN):** A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture. Also referred to as DOT code.
- **Inflation pressure:** A measure of the amount of air in a tire.
- **Standard load:** A class of P-metric or Metric tires designed to carry a maximum load at set pressure. For example: for P-metric tires 35 psi (2.4 bar) or 36 psi (2.5 bar) depending on tire size and for Metric tires 36 psi (2.5 bar). Increasing the inflation pressure beyond this pressure will not increase the tire capability.
- **Extra load:** A class of P-metric or Metric tires designed to carry a heavier maximum load at 42 psi (2.9 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.
- **bar** Metric unit of atmospheric pressure.
- **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.

Wheels and Tires

- **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.

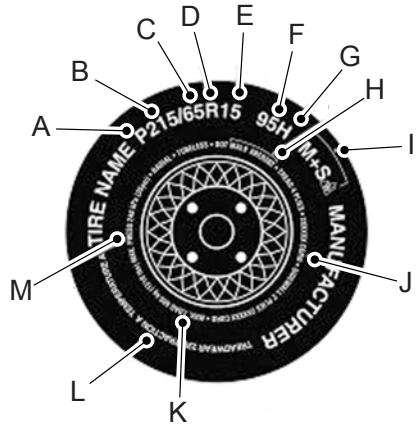
Information Contained on the Tire Sidewall

United States of America, 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 United States of America DOT Tire Identification Number for safety standard certification and in case of a recall.

P Type Tires

P215/65R15 95H is an example of a tire size, load index and speed rating. The definitions of these items are listed below.

Note: *Tire size, load index and speed rating for your vehicle may be different from the following example.*



E142543

- 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.
- 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.

Wheels and Tires

E 15: Indicates the wheel or rim diameter in inches. If you change the wheel size, you will have to purchase new tires to match the new wheel diameter.

F 95: Indicates the tire's load index. It is an index that relates to how much weight a tire can carry. You may find this information in the Owner's Guide. If not, contact a local tire dealer.

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 kph) to 186 mph (299 kph). These ratings are listed in the following chart.

H United States of America 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, **AT:** All Terrain, **AS:** All Season.

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

Wheels and Tires

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. Refer to 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 manufacturer's maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the manufacturer's recommended cold inflation pressure, which can be found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position), or Tire Label which is located on the B-Pillar or the edge of

Wheels and Tires

the driver door. The cold inflation pressure should never be set lower than the recommended pressure on the vehicle label.

Note: If the tire size does not begin with a letter, this may mean it is designated by either ETRTO (European Tire and Rim Technical Organization) or JATMA (Japan Tire Manufacturing Association). You may not find this information on all tires because it is not required by federal law.

Note: The tire suppliers may have additional markings, notes or warnings, for example standard load, radial tubeless, etc.

T Type Tires

T145/80D16 is an example of a tire size. T type tires have some additional information beyond those of P type tires. The definitions of these items are listed below.

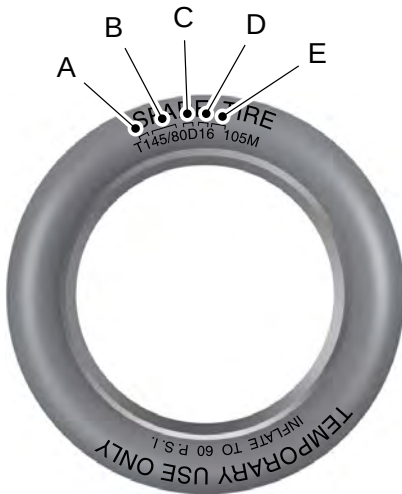
Note: The temporary tire size for your vehicle may be different from this example. Tire Quality Grades do not apply to this type of tire.

Tire speed ratings

Letter rating	mph (km/h)
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)
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.

Wheels and Tires



E142545

- 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.

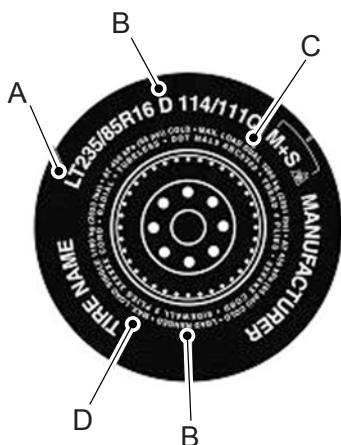
- C **80:** Indicates the aspect ratio which gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall.
- D **D:** Indicates a diagonal type tire. **R:** Indicates a radial type tire.
- E **16:** Indicates the wheel or rim diameter in inches. If you change the wheel size, you will have to purchase new tires to match the new wheel diameter.

Additional Information for LT Type Tires

LT235/85 R16 is an example of a tire size. LT type tires have some additional information beyond those of P type tires. The definitions of these items are listed below.

Note: *Tire Quality Grades do not apply to this type of tire.*

Wheels and Tires



E142544

- A **LT:** Indicates a tire, designated by the Tire and Rim Association (T&RA), 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.

Additional Information for ETRTO Euro-Metric Commercial Vehicle Tires

Euro-metric commercial vehicle tires end in the letter "C" (for example, 235/65R16**C**). The "C" does not signify the tire's Load Range like the T&RA LT tire dimension (for example, LT245/75R17**E**).

Tire Load Capacities are identified by the Single/Dual Load indexes that follow the tire size on the tire's sidewall (for example, 235/65R16C **121/119**).

Wheels and Tires

United States of America DOT Tire Identification Number (TIN)

United States of America, 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 United States of America 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.

Location of the Tire Label

You will find a Tire Label containing tire inflation pressure by tire size and other important information located on the B-Pillar or the edge of the driver's door.

Inflating the Tires

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 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!

Safe operation of your vehicle requires that the tires are correctly inflated.

Every day before you drive, check the tires. If one looks lower than the others, use a tire gauge to check pressure of all tires and adjust if required.

At least once a month and before long trips inspect each tire including the spare tire. Check the tire pressure with a tire pressure gauge. Inflate all tires to the correct inflation pressure.

Wheels and Tires

You are strongly urged to buy a reliable tire pressure gauge, as automatic service station gauges may be inaccurate. We recommend 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 the tires to the recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. The recommended tire inflation pressure is 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. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles

Note: *Do not reduce tire pressure to change the ride characteristics of your vehicle. If you do not maintain the tire pressures as specified by Ford, your vehicle may experience a condition known as shimmy. This will cause severe vibration and oscillations in the steering wheel when your vehicle travels over a bump or dip in the road and is unable to dampen out by itself. Significantly under-inflated tires, incorrect tire usage or any vehicle modifications such as lift-kits can cause your vehicle to shimmy. If your vehicle begins to shimmy, slowly reduce the speed of your vehicle by pressing the brake pedal or releasing the accelerator pedal. As your vehicle speed reduces the shimmy will cease.*

The maximum inflation pressure is the tire manufacturer's maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the manufacturer's recommended cold inflation pressure, which can be found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position), or Tire Label which is located on the B-Pillar or the edge

Wheels and Tires

of the driver door. The cold inflation pressure should never be set lower than the recommended pressure on the Safety Compliance Certification Label or Tire Label.

When weather temperature changes occur, tire inflation pressures also change. A 10°F (6°C) temperature drop can cause a corresponding drop of 10 psi (0.7 bar) in inflation pressure. Check the tire pressures frequently and adjust them to the correct pressure which can be found on the Safety Compliance Certification Label or Tire Label.

To check the tire pressures:

1. Make sure the tires are cool, meaning they are not hot from driving even a mile.
2. Remove the cap from the valve on one tire, then firmly press the tire gauge onto the valve and measure the tire pressure.
3. Add enough air to reach the recommended tire pressure.
4. Replace the valve cap.
5. Repeat this procedure for each tire, including the spare.
6. Visually inspect the tires to make sure there are no nails or other objects embedded that could poke a hole in the tire and cause an air leak.
7. Check the sidewalls to make sure there are no gouges, cuts or bulges.

Note: *If you are checking tire pressure when the tire is hot, for example you have driven more than 1.0 mi (1.6 km), never bleed or reduce tire pressure. The tires are hot from driving and it is normal for pressures to increase above recommended cold pressures. A hot tire at or below recommended cold inflation pressure could be significantly under-inflated.*

Note: *If you have to drive a distance to get air for the tires, check and record the tire pressure first and add the appropriate air pressure when you get to the pump. It is normal for tires to heat up and the tire pressure to increase as you drive.*

Note: *If you over inflate the tire, release air by pressing on the metal stem in the center of the valve. Then recheck the pressure with your tire gauge.*

Note: *Some spare tires operate at a higher inflation pressure than the other tires. For T-type mini-spare tires, refer to the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at 60 psi (4.15 bar). For full-size and dissimilar spare tires, refer to the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at the higher of the front and rear inflation pressure as shown on the Tire Label.*

Wheels and Tires

Inspecting the Tires and Wheel Valve Stems

Periodically inspect the tire treads for uneven or excessive wear and remove objects, for example 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 removed 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.

Incorrect or inadequate vehicle maintenance can cause tires to wear abnormally. Inspect all the 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 0.08 in (2 mm), tires must be replaced to help prevent your vehicle from skidding and hydroplaning. Built-in treadwear indicators, or wear bars, which look like narrow strips of smooth rubber across the tread will appear on the tire when the tread is worn down to 0.08 in (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.

Tire Damage

Periodically inspect the tire treads and sidewalls for damage, for example bulges in the tread or sidewalls, cracks in the tread groove or 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.

Wheels and Tires

Tire Age

WARNING

 Tires degrade over time depending on many factors, for example weather, storage conditions, and conditions of use, for example load, speed and inflation pressures 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 the spare tire when you replace the road tires or after six years due to aging even if it has not been used.

Tire Replacement Requirements

WARNINGS

 Only use replacement tires and wheels that are the same size, load index, speed rating and type, (for example 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

WARNINGS

edge that meets the door-latch post, next to the driver seating position), or the Tire Label which is located on the B-Pillar or edge of the driver door. If this information is not found on these labels, then you should contact an 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. Additionally 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 an authorized dealer as soon as possible.

 Always inflate steel carcass tires with a remote air fill with the person inflating standing at a minimum of 12.1 ft (3.7 m) away from the wheel and tire assembly.

Your vehicle is fitted with tires designed to provide a safe ride and handling capability.

We recommend that the two front tires or two rear tires generally be replaced as a pair.

Wheels and Tires

Note: *The wheel valve stems must also be replaced when the road tires are replaced on your vehicle.*

Fitting Replacement Tires

WARNINGS



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.



For mounting pressures above 20 psi (1.38 bar) greater than the maximum pressure on the tire sidewall, the tire should be replaced by a tire professional.

For mounting pressures up to 1.38 bar greater than the maximum pressure on the tire sidewall, the following precautions must be taken:

- Make sure that you have the correct tire and wheel size.
- Lubricate the tire bead and wheel bead seat area.
- Stand at a minimum of 12.1 ft (3.7 m) away from the wheel and tire assembly.
- Use eye and ear protection.

Tire Pressure Monitoring System (If Equipped)

The use of wheels or tires not recommended by Ford Motor Company may affect the operation of the tire pressure monitoring system. If the tire pressure monitoring system indicator is flashing, the tire pressure monitoring system is malfunctioning. The replacement tire might be incompatible with the tire pressure monitoring system, or a component of the tire pressure monitoring system may be damaged. See **Tire Pressure Monitoring System** (page 260).

The tire pressure sensors mounted in the wheels (originally installed on your vehicle) are not designed to be used in aftermarket wheels.

Tire Safety Practices

WARNINGS



If your vehicle is stuck in snow, mud, sand, etc., 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.

Wheels and Tires

WARNINGS



Do not spin the wheels at over 35 mph (56 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 while driving, or you suspect a tire or your 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 the 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 the 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 the tires and should be corrected by an authorized dealer. Front-wheel drive vehicles and those with an independent rear suspension 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

WARNING

 If the tire label shows different tire pressures for the front and rear tires and the vehicle is fitted with a tire pressure monitoring system, the settings for the system sensors need to be reset. Always carry out the system reset procedure after tire rotation. If the system is not reset, it may not provide a low tire pressure warning when necessary. See **Tire Pressure Monitoring System** (page 260).

Rotating the tires at the recommended interval detailed in the Scheduled Maintenance chapter will help the tires wear more evenly, providing better tire performance and longer tire life.

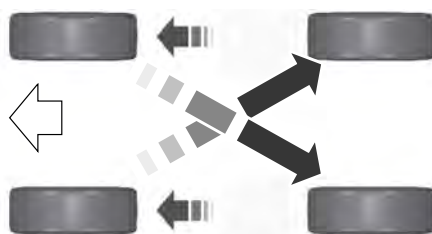
Sometimes irregular tire wear can be corrected by rotating the tires.

Note: After rotating the tires the inflation pressure must be checked and adjusted to the vehicle requirements.

Note: If the 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 have 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.

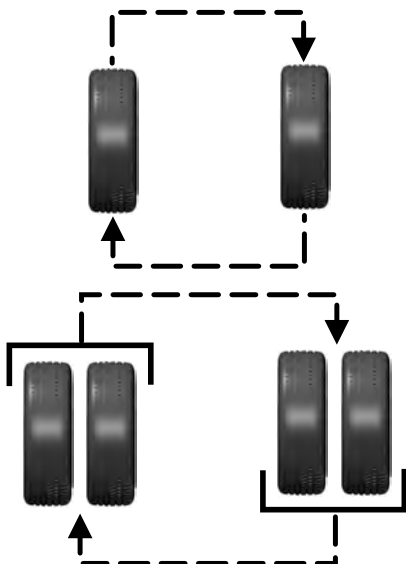
Rear-wheel drive and four-wheel drive vehicles with single rear wheels (front tires at left of diagram).



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Wheels and Tires

Rear-wheel drive and four-wheel drive vehicles with dual rear wheels.



E166988

USING WINTER TIRES

WARNING



When you use winter tires on your vehicle, you must make sure that you use the correct lug nuts.

If winter tires are used, you must make sure that you use the correct tire pressures.

USING SNOW CHAINS

WARNING



Snow tires must be the same size, load index, speed rating as those originally provided by Ford. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death. Additionally, the use of non-recommended tires and wheels could cause steering, suspension, axle, transfer case or power transfer unit failure.

The tires on your vehicle have all-weather treads to provide traction in rain and snow. However, in some climates, you may need to use snow tires or snow chains.

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 inflation pressure label (located on the edge of driver door or the B-Pillar) 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.

If you use snow chains, we recommended that steel wheels of the same size and specifications are used, snow chains may damage aluminum wheels.

Follow these guidelines when using snow chains:

- Avoid fully loading your vehicle.
- Only certain snow chains or cables have been approved by Ford as safe for use on vehicles with either 235/65 R16C or 195/75 R16C tires.
- Snow chains or cables must be mounted in pairs on the rear tires only.

Wheels and Tires

- Install snow chains securely, make sure they do not touch any wiring, brake lines or fuel lines.
- S class or 15mm or less in dimension as measured on the sidewall of the tire.
- Do not exceed 30 mph (48 km/h) or the maximum speed recommended by the chain manufacturer, whichever is less.
- Purchase snow chains or cables from a manufacturer that clearly labels the body to tire dimension restrictions.
- Remove the cables when they are no longer needed.
- Do not use snow chains on dry roads.
- If you have any questions regarding snow chains or cables, see an authorized dealer.



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.

TIRE PRESSURE MONITORING SYSTEM (If Equipped)

WARNING



The tire pressure monitoring system is not a substitute for manually checking tire pressure. The tire pressure should be checked periodically (at least monthly) using a tire gauge, see Inflating your tires in this chapter. Failure to properly maintain your tire pressure could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.

Wheels and Tires

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.

The tire pressure monitoring system 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.

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 the Tire Pressure Monitoring System

The system measures the pressure in the four road tires and sends the tire pressure readings to your vehicle. The low tire pressure warning light will illuminate if any of the tire pressures are significantly low. If the warning light is illuminated, one or more of the tires are under-inflated and need to be inflated to the correct pressure.

When the Temporary Spare Tire is Installed

If one of the road wheels and tire needs to be replaced with the temporary spare wheel and tire, the system will continue to identify a defect. This is to remind you that the damaged road wheel and tire must be repaired and refitted to your vehicle.

To restore the correct operation of the system, you must have the repaired road wheel and tire assembly refitted to your vehicle. For additional information, see

Changing Tires with a Tire Pressure Monitoring System

When You Believe the System is Not Operating Correctly

The main function of the system is to warn you when the tire pressures are low. It can also warn you in the event the system is no longer capable of operating correctly. See the following chart for information concerning the system:

Wheels and Tires

Low tire pressure warning light	Possible cause	Action required
Solid warning light	Tire(s) under-inflated	1. Make sure tires are at the correct pressure. See Inflating the tires in this chapter. 2. After inflating the tires to the correct pressure See Maintenance (page 207), or the tire inflation pressure label (located on the edge of driver door or the B-Pillar), the vehicle must be driven for at least two minutes at over 20 mph (32 km/h) before the light will turn off.
	Spare tire in use	Repair the damaged road wheel and tire assembly and refit it to your vehicle to restore correct system function. For a description on how the system functions, see When the temporary spare tire is installed in this section.
	Tire rotation without sensor training	On vehicles with different front and rear tire pressures, you must retrain the system following every tire rotation. See Tire Care (page 242).
	Tire pressure monitoring system malfunction	If the tires are correctly inflated and the spare tire is not in use but the light remains on, have your vehicle checked by an authorized dealer as soon as possible.
Flashing warning light	Spare tire in use	Repair the damaged road wheel and tire assembly and refit it to your vehicle to restore correct system function. For a description on how the system functions, see When the temporary spare tire is installed in this section.
	Tire pressure monitoring system malfunction	If the tires are correctly inflated and the spare tire is not in use but the light remains on, have your vehicle checked by an authorized dealer as soon as possible.

Wheels and Tires

When Inflating the Tires

When inflating the tires (for example; at a gas station), the system may not respond immediately to the air added to the 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.

How Temperature Affects the Tire Pressures

While driving in a normal manner, tire pressures may increase up to 4 psi (0.3 bar) from a cold start situation. If the vehicle is stationary overnight and the temperature significantly lower than the daytime temperature, tire pressures may decrease up to 3 psi (0.2 bar) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value will be detected by the system as being significantly lower than the correct inflation pressure and the warning light will illuminate.

If the warning light is on:

- Check each tire to verify that none are flat.
- If one or more tires are flat, repair as necessary.
- Check the tire pressures and Inflate all the tires to the correct pressure.

Tire Pressure Monitoring System Reset Procedure

Note: *The system reset procedure needs to be carried out after each tire replacement.*

Overview

WARNING



To determine the required pressure(s) for your vehicle, 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), or Tire Label located on the B-Pillar or the edge of the driver door.

To maintain your vehicle's load carrying capability, this vehicle requires different tire pressures in the front tires compared to the rear tires. The system on your vehicle is designed to illuminate the warning light at different pressures for the front and rear tires.

The tires need to be periodically rotated to provide consistent performance and maximum tire life, the system needs to know when the tires have been rotated to determine which set of tires are on the front and rear axles. With this information, the system can detect and correctly warn of low tire pressures.

System Reset Tips:

- To reduce the chance of interference from another vehicle, the system reset procedure should be carried out at least three feet (one meter) away from another Ford vehicle undergoing the system reset procedure.
- Do not wait more than two minutes between resetting each tire sensor or the system will time-out and the entire procedure will have to be repeated on all four wheels. A double horn chirp indicates the need to repeat the procedure.

Wheels and Tires

Carrying Out the System Reset Procedure

Read the entire procedure before carrying out a system reset.

1. Drive your vehicle above 20 mph (32 km/h) for at least two minutes and then park in a safe location where you can easily get to all four tires and have access to a tire inflation pump.
2. Switch the ignition off.
3. Switch the ignition on with the engine off.
4. Turn the hazard flashers on then off three times, this must be completed within 10 seconds. If the reset mode has been entered successfully, the horn will chirp once and the system indicator will flash. If this does not occur, repeat the procedure from step 2. If after repeated attempts to enter the reset mode, the horn does not chirp and the system indicator does not flash, have your vehicle checked by an authorized dealer as soon as possible.
5. Train the system sensors in the tires using the following reset sequence starting with the left front tire and following a clockwise order: Left front, right front, right rear, left rear.
6. Remove the valve cap from the valve stem on the left front tire. Decrease the air pressure until the horn chirps.

Note: *The single horn chirp confirms that the sensor identification code has been learned by your vehicle for this position. If a double horn chirp is heard, the reset procedure was unsuccessful and must be repeated.*

7. Remove the valve cap from the valve stem on the right front tire. Decrease the air pressure until the horn chirps.
8. Remove the valve cap from the valve stem on the right rear tire. Decrease the air pressure until the horn chirps.

9. Remove the valve cap from the valve stem on the left rear tire. Decrease the air pressure until the horn chirps. Training is complete when the horn chirps after the last system sensor (left rear) has been trained and the system indicator stops flashing.
10. Switch the ignition off. If two short horn chirps are heard, the reset procedure was unsuccessful and must be repeated.

Note: *If after repeating the procedure two short horn chirps are heard again, have your vehicle checked by an authorized dealer as soon as possible.*

11. Set all four tires to the correct pressure. See **Maintenance** (page 207), or the tire inflation pressure label (located on the edge of driver door or the B-Pillar).

CHANGING A ROAD WHEEL

WARNINGS



The use of tire sealant may damage your tire pressure monitoring system and should only be used in roadside emergencies. If you must use a sealant, the Ford Tire Mobility Kit sealant should be used. The tire pressure monitoring system sensor and valve stem on the wheel must be replaced by an authorized dealer after use of the sealant.



If the tire pressure monitor sensor becomes damaged, it will no longer function. See **Tire Pressure Monitoring System** (page 260).

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 this vehicle.*

Wheels and Tires

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 system sensors. See **Tire Pressure Monitoring System** (page 260). 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 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.

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.

Wheels and Tires

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.

Locking Lug Nuts

You can obtain replacement locking lug nuts or a locking lug nut key using the reference number certificate.

Vehicles With a Spare Wheel

Van, Bus or Wagon

The spare wheel is under the rear of your vehicle.

If the spare wheel is the same type and size as your vehicle road wheel, you can fit the spare wheel and continue to drive in the normal manner.

If the spare wheel is not the same type and size as your vehicle road wheel, it has a label showing the maximum driving speed limit.

Note: If your vehicle is fitted with a tire pressure monitoring system, the warning indicator will flash if you fit the spare wheel to your vehicle. To restore the correct operation of the tire pressure monitoring system, you must have the repaired road wheel and tire assembly refitted to your vehicle. See **Tire Pressure Monitoring System** (page 260). To prevent damage occurring to the tire pressure monitoring system sensors, make sure you have a damage tire repaired or replaced by a tire professional.



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1. Open the rear doors. Remove the grommet and insert the flat end of the lug wrench into the socket. Turn counterclockwise until the spare wheel rests on the ground and the cable is loose.

Wheels and Tires



E146811

2. Raise the cable end cover.



E146812

3. Rotate the cable through 90 degrees. Slide the cable through the slot to release the spare wheel bracket from the winch.



E146813

4. Remove the retaining nut to release the spare wheel bracket.

Vehicles With a Spare Wheel

Chassis Cab and Cutaway

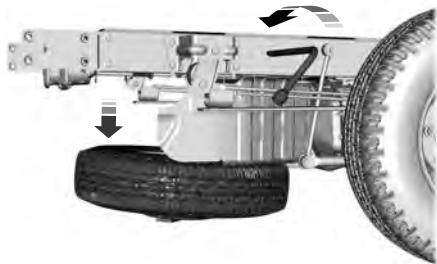
The spare wheel is under the rear of your vehicle.

If the spare wheel is the same type and size as your vehicle road wheel, you can fit the spare wheel and continue to drive in the normal manner.

If the spare wheel is not the same type and size as your vehicle road wheel, it has a label showing the maximum driving speed limit.

Note: If your vehicle is fitted with a tire pressure monitoring system, the warning indicator will flash if you fit the spare wheel to your vehicle. To restore the correct operation of the tire pressure monitoring system, you must have the repaired road wheel and tire assembly refitted to your vehicle. See **Tire Pressure Monitoring System** (page 260). To prevent damage occurring to the tire pressure monitoring system sensors, make sure you have a damage tire repaired or replaced by a tire professional.

Wheels and Tires



E184880

1. Insert the flat end of the lug wrench into the socket. Turn counterclockwise until the spare wheel rests on the ground and the cable is loose.



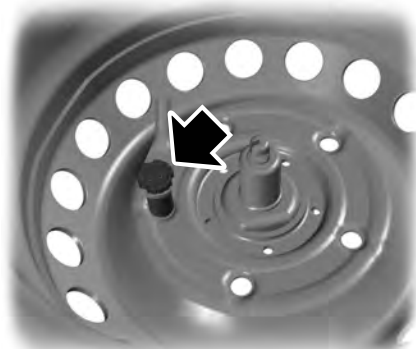
E146812

3. Rotate the cable through 90 degrees. Slide the cable through the slot to release the spare wheel bracket from the winch.



E146811

2. Raise the cable end cover.



E146813

4. Remove the retaining nut to release the spare wheel bracket.

Wheels and Tires

Vehicle Jack

WARNINGS



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.



To help prevent the vehicle from moving when you change a tire, be sure to place the transmission in park (P), set the parking brake and block (in both directions) the wheel that is diagonally opposite (other side and end of the vehicle) to the tire being changed.



Never get underneath a vehicle that is supported only by a jack. If the vehicle slips off the jack, you or someone else could be seriously injured.



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.



Always use the jack provided as original equipment with your vehicle. If using a jack other than the one provided as original equipment with your vehicle, make sure the jack capacity is adequate for the vehicle weight, including any vehicle cargo or modifications.



Disable the power running boards before jacking, lifting, or placing any object under the vehicle. Never place your hand between the power running board and the vehicle as extended power running boards will retract when the doors are closed. Failure to follow these instructions may result in personal injury.

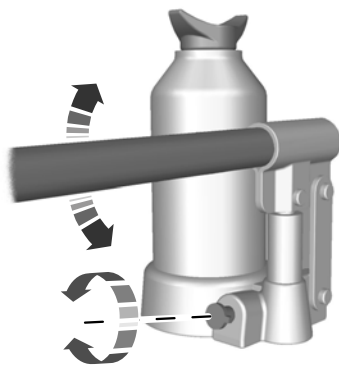
Note: *Passengers should not remain in the vehicle when the vehicle is being jacked.*

Note: *Vehicles with a Temporary Mobility Kit do not have a vehicle jack or a lug wrench.*

Vehicle Jack Storage

The vehicle jack is under the passenger seat. The jack handle and lug wrench are located in a storage compartment in the front right-hand side stepwell.

Note: *The vehicle jack is in the load space area on vehicles with rear climate control.*



E70959

1. Assemble the jack handle.
2. Insert the jack handle onto the release valve and rotate clockwise until you feel a strong resistance.
3. Insert the jack handle into the pump and use a pumping action to raise your vehicle.
4. Insert the jack handle into the release valve and rotate counterclockwise to lower your vehicle.

Front Jacking Points

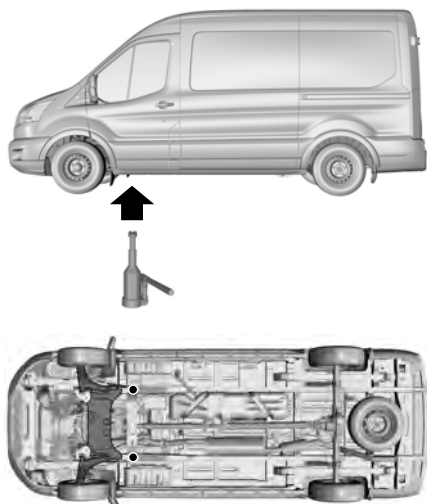
WARNING



You must use the specified jacking points.

Wheels and Tires

Note: If your vehicle has rear air conditioning make sure the vehicle jack does not come in contact with the air conditioning lines.



E171405

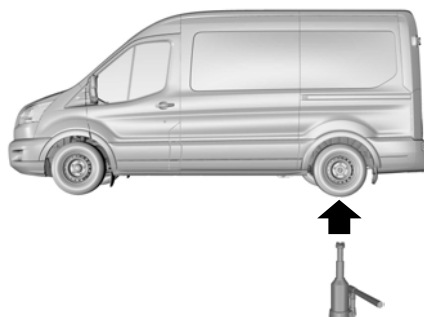
Position the head of the vehicle jack under the protrusions at the rear of front sub-frame.

Rear Jacking Points

WARNING



You must use the specified jacking points.



E171406

Position the head of the vehicle jack under the rear axle.

Removing a Road Wheel

WARNINGS



Park your vehicle so that you do not obstruct the flow of traffic or place yourself in any danger and set up a warning triangle.



Switch the ignition off and apply the parking brake.



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



Make sure all passengers are out of your vehicle.



Make sure that your vehicle is on firm and level ground with the front wheels pointing straight ahead.

Wheels and Tires

WARNINGS



Chock the diagonally opposite wheel to the punctured tire with an appropriate block or wheel chock. A wheel chock may be located in the B-pillar or in a storage compartment in the front right-hand side stepwell.



Make sure that the arrows on directional tires point in the direction of rotation when your vehicle is moving forward. If you have to fit a spare tire with the arrows pointing in the opposite direction have the tire refitted as soon as possible.

1. Insert the flat end of the lug wrench between the wheel rim and the wheel trim and carefully remove the wheel trim.
2. Use the locking lug nut key to loosen the locking lug nut.
3. Loosen the remaining lug nuts, but do not remove them.
4. Raise your vehicle until the tire is clear of the ground.
5. Remove the lug nuts and the road wheel.

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

Installing a Road Wheel

WARNINGS



Use only approved wheel and tire sizes. Using other wheel and tire sizes could damage your vehicle and will make the National Type Approval invalid.



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

WARNINGS

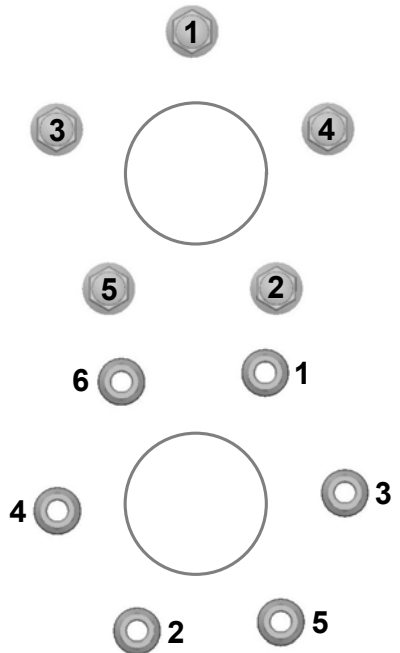


Make sure the wheel and hub contact surfaces are free from foreign material.



Never use wheels or lug nuts different than the original equipment as this could damage the wheel or mounting system. This damage could allow the wheels to come off when your vehicle is moving.

1. Install the wheel.



E70961

2. Install all of the lug nuts and partially tighten them in the sequence shown.
3. Lower your vehicle and remove the vehicle jack.

Wheels and Tires

4. Fully tighten all of the lug nuts in the sequence shown.

5. Install the wheel trim.

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

Note: Alloy wheel lug nuts are suitable for use on a steel spare wheel.

Note: If the spare wheel is not the same type and size as your vehicle road wheel replace it as soon as possible.

Note: Check the lug nuts for correct tightness and check the tire pressure as soon as possible.

Stowing the Wheel and Vehicle Jack

Note: Do not raise the spare wheel bracket without a wheel attached. Damage can occur to the winch mechanism if the spare wheel bracket is lowered without a wheel attached.

1. Attach the spare wheel bracket to the wheel using the retaining nut.

2. Slide the cable through the slot and attach the spare wheel bracket to the winch.

3. Rotate the cable through 90 degrees and lower the cable end cover.

4. Insert the flat end of the lug wrench into the socket. Turn it clockwise until you feel a strong resistance. Make sure the wheel is secure.

5. Stow the vehicle jack, jack handle and lug wrench in their correct locations and secure them with the straps.

TECHNICAL SPECIFICATIONS

Wheel Lug Nut Torque Specifications

WARNING



When a wheel is installed, 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 that any fasteners that attach the rotor to the hub are secured 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 control.

Bolt size	lb-ft (Nm)*
M14 x 1.5	148 lb.ft (200 Nm)

*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, for example tire rotation, changing a flat tire or wheel removal.

Wheels and Tires



E145950

A Wheel pilot bore

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

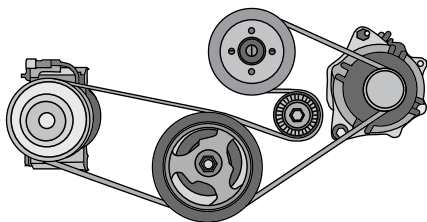
Capacities and Specifications

ENGINE SPECIFICATIONS - 3.5L

Engine	3.5L V6 Ecoboost
Cubic inches	214
Required fuel	Minimum 87 octane
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	.030-.033 in. (.75-.85 mm)
Compression ratio	10.0:1

Drivebelt Routing

3.5L V6 Ecoboost Engines with A/C



E167467

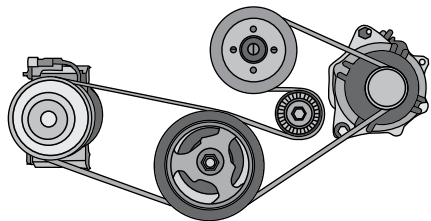
ENGINE SPECIFICATIONS - 3.7L

Engine	3.7 V6
Cubic inches	226
Required fuel	Minimum 87 octane or E85
Firing order	1-4-2-5-3-6
Ignition system	Coil on plug
Spark plug gap	.049-.053 in. (1.25-1.35 mm)
Compression ratio	10.5:1

Capacities and Specifications

Drivebelt Routing

3.7L V6 Engines with A/C



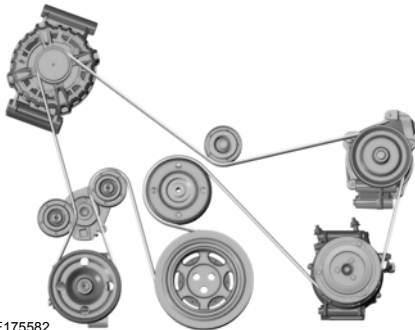
E167464

ENGINE SPECIFICATIONS - 3.2L POWER STROKE DIESEL

Engine	3.2L Power Stroke Diesel
Cubic inches	195
Required fuel	No. 2 Diesel
Firing order	1-2-4-5-3
Compression ratio	15.4:1

Drivebelt Routing

3.2L Power Stroke Diesel Engines with A/C



E175582

Capacities and Specifications

MOTORCRAFT PARTS - 3.5L

3.5L V6 Ecoboost

Component	Part number
Air filter element	FA-1916
Automatic transmission fluid filter	Service required
Battery	BXT-48H6-610
Oil filter	FL-500S
Spark plugs	SP534
Windshield wiper blades - vehicles with low roof	WW-2955 - driver side WW-2112 - passenger side
Windshield wiper blades - vehicles with medium or high roof	WW-2901 - driver side WW-2049 - passenger side

We recommend Motorcraft replacement parts available at your Ford dealer or at 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 **Normal Scheduled Maintenance** (page 366).

Capacities and Specifications

MOTORCRAFT PARTS - 3.7L

3.7L Duratec

Component	Part number
Air filter element	FA-1916
Automatic transmission fluid filter	Service required
Battery	BXT-48H6-610
Oil filter	FL-500S
Spark plugs	SP520
Windshield wiper blades - vehicles with low roof	WW-2955 - driver side WW-2112 - passenger side
Windshield wiper blades - vehicles with medium or high roof	WW-2901 - driver side WW-2049 - passenger side

We recommend Motorcraft replacement parts available at your Ford dealer or at 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 **Normal Scheduled Maintenance** (page 366).

Capacities and Specifications

MOTORCRAFT PARTS - 3.2L POWER STROKE DIESEL

3.2L Power Stroke Diesel

Component	Part number
Diesel Foam Pre air filter	FA-1921
Air filter element	FA-1916
Automatic transmission fluid filter	Service required
Battery	BAGM-48H6-760 - dual batteries
Oil filter	FL-500S
Fuel filter	FG-1140
Windshield wiper blades - vehicles with low roof	WW-2955 - driver side WW-2112 - passenger side
Windshield wiper blades - vehicles with medium or high roof	WW-2901 - driver side WW-2049 - passenger side

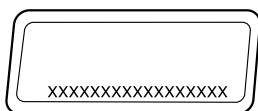
Note: Motorcraft replacement parts are recommended for scheduled maintenance and are available at an authorized dealer or at fordparts.com. These parts meet or exceed Ford Motor Company's specifications, and are engineered for your vehicle. Use of other parts may impact vehicle performance, emissions and durability. Your vehicle Warranty may be void for any damage related to use of other parts.

Note: Should a Motorcraft oil filter not be available, use an oil filter that meets industry performance specification SAE/USCAR-36.

Capacities and Specifications

VEHICLE IDENTIFICATION NUMBER

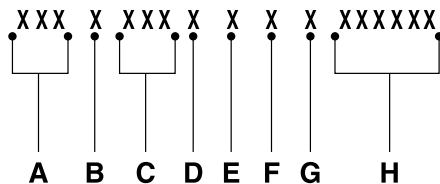
The vehicle identification number is located on the left-hand side of the instrument panel.



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: XXXX KG (XXXX LB) WITH REAR GAWR: 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 XXXXX 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: XXXX KG (XXXX LB) WITH REAR GAWR: 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 XXXXX 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

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 6R80E	6

Capacities and Specifications

CAPACITIES AND SPECIFICATIONS - 3.5L

WARNING



The air conditioning refrigerant system contains refrigerant R-134a under high pressure. Opening the air conditioning refrigerant system can cause personal injury. Have the air conditioning refrigerant system serviced only by qualified personnel.

Capacities

Item	Capacity
Engine lubrication system - including the oil filter	5.9 qt (5.6 L)
Engine lubrication system - excluding the oil filter	5.4 qt (5.1 L)
Engine oil top-up - raise the level on the dipstick from minimum to maximum	1 qt (0.9 L)
Engine cooling system, vehicles with an auxiliary heater ¹	16.4 qt (15.5 L)
Engine cooling system, vehicles without an auxiliary heater ¹	14.9 qt (14.1 L)
Automatic transmission ^{2,3}	13.1 qt (12.4 L)
Rear axle fluid (limited slip) ⁴	2.9 qt (2.72 L)
Rear axle fluid (conventional)	3.0 qt (2.84 L)
Rear axle friction modifier	4.0 fl oz (118 ml)
Fuel tank	25.1 gal (95 L)
Windshield and rear window washer system - including headlamp washer	4.8 qt (4.5 L)
A/C Refrigerant, vehicles with rear heating, ventilation and air conditioning	2.62 lb (1.19 kg)
A/C Refrigerant, vehicles without rear heating, ventilation and air conditioning	1.76 lb (0.8 kg)

Capacities and Specifications

Item	Capacity
A/C Refrigerant oil, vehicles with rear heating, ventilation and air conditioning	9.5 fl oz (280 ml)
A/C Refrigerant oil, vehicles without rear heating, ventilation and air conditioning	5.4 fl oz (160 ml)

¹Add the coolant type originally used in your vehicle.

²Automatic transmissions that require Motorcraft MERCON LV transmission fluid should only use Motorcraft MERCON LV transmission fluid. Use of any fluid other than the recommended fluid may cause transmission damage.

³Change the automatic transmission fluid and filter at the correct service interval. See **Scheduled Maintenance** (page 363).

⁴For complete refill of limited slip Ford axles, add 4.0 oz. (118 ml) of Additive Friction Modifier XL-3 or equivalent meeting Ford Specification EST-M2C118-A.

Note: *Ford rear axles contain a synthetic lubricant that does not require changing unless you submerge the axle in water.*

Specifications

Materials

Name	Specification
Motor oil (U.S. and Mexico): Motorcraft SAE 5W-30 Premium Synthetic Blend Motor Oil XO-5W30-QSP	WSS-M2C946-A
Motor oil (Canada): Motorcraft SAE 5W-30 Super Premium Motor Oil CXO-5W30-LSP12	WSS-M2C946-A
Engine coolant (U.S. and Mexico): Motorcraft Orange Antifreeze/Coolant Prediluted VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft Orange Antifreeze/Coolant Prediluted CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft DOT 4 LV High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2

Capacities and Specifications

Name	Specification
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
Rear axle fluid (limited slip): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid (conventional): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle friction modifier (U.S. and Mexico): Motorcraft Additive Friction Modifier XL-3	EST-M2C118-A
Rear axle friction modifier (Canada): Motorcraft Additive Friction Modifier CXL-3	EST-M2C118-A
Power steering fluid (U.S. and Mexico): Motorcraft MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Power steering 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

Capacities and Specifications

Name	Specification
A/C refrigerant (U.S. and Mexico): Motorcraft R-134a Refrigerant YN-19	WSH-M17B19-A
A/C refrigerant (Canada): Motorcraft R-134a Refrigerant CYN-16-R	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft PAG Refrigerant Compressor Oil YN-12-D	WSH-MIC231-B
Grease: Premium Long-Life Grease XG-1-EI	ESA-MIC75-B

Only use fluid that meets Ford specifications. Motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines are also acceptable. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



E142732

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 Council (ILSAC).

Note: Do not use supplemental engine oil additives. They are unnecessary and could lead to engine damage that is not covered by Ford's warranty.

Ford 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 the Ford 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.

Use multi-purpose grease for door latches, hood latch, auxiliary hood latch, trunk latch and seat tracks.

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

- Component damage which may not be covered by the vehicle Warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.

Capacities and Specifications

- Reduced fuel economy.
- Degraded brake performance.

CAPACITIES AND SPECIFICATIONS - 3.7L

WARNING



The air conditioning refrigerant system contains refrigerant R-134a under high pressure. Opening the air conditioning refrigerant system can cause personal injury. Have the air conditioning refrigerant system serviced only by qualified personnel.

Capacities

Item	Capacity
Engine lubrication system – including the oil filter	6 qt (5.7 L)
Engine lubrication system – excluding the oil filter	5.5 qt (5.2 L)
Engine oil top-up – raise the level on the dipstick from minimum to maximum	1 qt (0.9 L)
Engine cooling system, vehicles with an auxiliary heater ¹	16.4 qt (15.5 L)
Engine cooling system, vehicles without an auxiliary heater ¹	14.9 qt (14.1 L)
Automatic transmission ^{2,3}	13.1 qt (12.4 L)
Rear axle fluid (limited slip) ⁴	2.9 qt (2.72 L)
Rear axle fluid (conventional)	3.0 qt (2.84 L)
Rear axle friction modifier	4.0 fl oz (118 ml)
Fuel tank	25.1 gal (95 L)
Windshield and rear window washer system – including headlamp washer	4.8 qt (4.5 L)
A/C Refrigerant, vehicles with rear heating, ventilation and air conditioning	2.62 lb (1.19 kg)
A/C Refrigerant, vehicles without rear heating, ventilation and air conditioning	1.76 lb (0.8 kg)

Capacities and Specifications

Item	Capacity
A/C Refrigerant oil, vehicles with rear heating, ventilation and air conditioning	9.5 fl oz (280 ml)
A/C Refrigerant oil, vehicles without rear heating, ventilation and air conditioning	5.4 fl oz (160 ml)

¹Add the coolant type originally used in your vehicle.

²Automatic transmissions that require Motorcraft MERCON LV transmission fluid should only use Motorcraft MERCON LV transmission fluid. Use of any fluid other than the recommended fluid may cause transmission damage.

³Change the automatic transmission fluid and filter at the correct service interval. See **Scheduled Maintenance** (page 363).

⁴For complete refill of limited slip Ford axles, add 4.0 oz. (118 ml) of Additive Friction Modifier XL-3 or equivalent meeting Ford Specification EST-M2C118-A.

Note: *Ford rear axles contain a synthetic lubricant that does not require changing unless you submerge the axle in water.*

Specifications

Materials

Name	Specification
Motor oil (U.S. and Mexico): Motorcraft SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP	WSS-M2C945-A
Motor oil (Canada): Motorcraft SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12	WSS-M2C945-A
Engine coolant (U.S. and Mexico): Motorcraft Orange Antifreeze/Coolant Prediluted VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft Orange Antifreeze/Coolant Prediluted CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft DOT 4 LV High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2

Capacities and Specifications

Name	Specification
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
Rear axle fluid (limited slip): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid (conventional): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle friction modifier (U.S. and Mexico): Motorcraft Additive Friction Modifier XL-3	EST-M2C118-A
Rear axle friction modifier (Canada): Motorcraft Additive Friction Modifier CXL-3	EST-M2C118-A
Power steering fluid (U.S. and Mexico): Motorcraft MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Power steering 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

Capacities and Specifications

Name	Specification
A/C refrigerant (U.S. and Mexico): Motorcraft R-134a Refrigerant YN-19	WSH-M17B19-A
A/C refrigerant (Canada): Motorcraft R-134a Refrigerant CYN-16-R	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft PAG Refrigerant Compressor Oil YN-12-D	WSH-MIC231-B
Grease: Premium Long-Life Grease XG-1-EI	ESA-MIC75-B

Only use fluid that meets Ford specifications. Motor oils of the recommended viscosity grade that meet API SN requirements and display the API Certification Mark for gasoline engines are also acceptable. Do not use oil labeled with API SN service category unless the label also displays the API certification mark.



E142732

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 Council (ILSAC).

Note: Do not use supplemental engine oil additives. They are unnecessary and could lead to engine damage that is not covered by your Ford warranty.

Ford 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 the Ford 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.

Use multi-purpose grease for door latches, hood latch, auxiliary hood latch, trunk latch and seat tracks.

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

- Component damage which may not be covered by the vehicle Warranty.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced engine performance.

Capacities and Specifications

- Reduced fuel economy.
- Degraded brake performance.

CAPACITIES AND SPECIFICATIONS - 3.2L POWER STROKE DIESEL

WARNING



The air conditioning refrigerant system contains refrigerant R-134a under high pressure. Opening the air conditioning refrigerant system can cause personal injury. Have the air conditioning refrigerant system serviced only by qualified personnel.

Capacities

Item	Capacity
Engine lubrication system — including the oil filter	12.0 qt (11.4 L)
Engine lubrication system — excluding the oil filter	11.6 qt (11 L)
Engine oil top-up — raise the level on the dipstick from minimum to maximum	2.6 qt (2.5 L)
Engine cooling system, vehicles with an auxiliary heater ¹	15.3 qt (14.5 L)
Engine cooling system, vehicles without an auxiliary heater ¹	13.9 qt (13.2 L)
Automatic transmission fluid ^{2,3}	13.1 qt (12.4 L)
Rear axle fluid (limited slip) ⁴	2.9 qt (2.72 L)
Rear axle fluid (conventional)	3.0 qt (2.84 L)
Rear axle friction modifier	4.0 fl oz (118 ml)
Fuel tank	25.1 gal (95 L)
Diesel exhaust fluid	5.5 gal (21 L)
Windshield and rear window washer system — including headlamp washer	4.8 qt (4.5 L)
A/C Refrigerant, vehicles with rear heating, ventilation and air conditioning	2.62 lb (1.19 kg)

Capacities and Specifications

Item	Capacity
A/C Refrigerant, vehicles without rear heating, ventilation and air conditioning	1.76 lb (0.8 kg)
A/C Refrigerant oil, vehicles with rear heating, ventilation and air conditioning	9.5 fl oz (280 ml)
A/C Refrigerant oil, vehicles without rear heating, ventilation and air conditioning	5.4 fl oz (160 ml)

¹Add the coolant type originally used in your vehicle.

²Automatic transmissions that require Motorcraft MERCON LV transmission fluid should only use Motorcraft MERCON LV transmission fluid. Use of any fluid other than the recommended fluid may cause transmission damage.

³Change the automatic transmission fluid and filter at the correct service interval. See **Scheduled Maintenance** (page 363).

⁴For complete refill of limited slip Ford axles, add 4.0 oz. (118 ml) of Additive Friction Modifier XL-3 or equivalent meeting Ford Specification EST-M2C118-A.

Note: *Ford rear axles contain a synthetic lubricant that does not require changing unless you submerge the axle in water.*

Specifications

Materials

Name	Specification
Motor oil: Motorcraft SAE 5W-40 Full Synthetic Diesel Motor Oil XO-5W40-5QSD	WSS-M2C171-E
Engine coolant (U.S. and Mexico): Motorcraft Orange Antifreeze/Coolant Prediluted VC-3DIL-B	WSS-M97B44-D2
Engine coolant (Canada): Motorcraft Orange Antifreeze/Coolant Prediluted CVC-3DIL-B	WSS-M97B44-D2
Brake fluid: Motorcraft DOT 4 LV High Performance Motor Vehicle Brake Fluid PM-20	WSS-M6C65-A2
Automatic transmission fluid (U.S. and Mexico):	WSS-M2C938-A

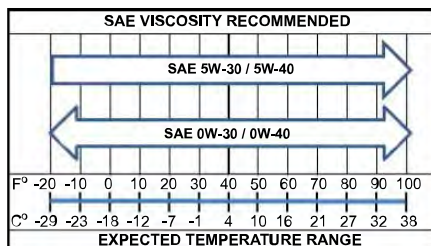
Capacities and Specifications

Name	Specification
Motorcraft MERCON LV Automatic Transmission Fluid XT-10-QLVC	MERCON LV
Automatic transmission fluid (Canada): Motorcraft MERCON LV Automatic Transmission Fluid CXT-10-LV12	WSS-M2C938-A MERCON LV
Rear axle fluid (limited slip): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle fluid (conventional): Motorcraft SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant XY-75W85-QL	WSS-M2C942-A
Rear axle friction modifier (U.S. and Mexico): Motorcraft Additive Friction Modifier XL-3	EST-M2C118-A
Rear axle friction modifier (Canada): Motorcraft Additive Friction Modifier CXL-3	EST-M2C118-A
Power steering fluid (U.S. and Mexico): Motorcraft MERCON LV Automatic Transmission Fluid XT-10-QLVC	WSS-M2C938-A MERCON LV
Power steering 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. and Mexico):	WSH-M17B19-A

Capacities and Specifications

Name	Specification
Motorcraft R-134a Refrigerant YN-19	
A/C refrigerant (Canada): Motorcraft R-134a Refrigerant CYN-16-R	WSH-M17B19-A
A/C refrigerant compressor oil: Motorcraft PAG Refrigerant Compressor Oil YN-12-D	WSH-MIC231-B
Grease: Premium Long-Life Grease XG-1-E1	ESA-MIC75-B

Note: The American Petroleum Institute (API) service symbol is used to identify the correct engine oil for your vehicle's engine. The API service symbol is on the oil container.



E176394

Note: For the use of biodiesel fuel (B6 – B20), use SAE 5W-40 API CJ-4.

Ford 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 the Ford 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.

Use multi-purpose grease for door latches, hood latch, auxiliary hood latch, trunk latch and seat tracks.

E179966

Note: The use of correct oil viscosities is important for satisfactory operation. Determine which oil viscosity best suits the temperature range you expect to encounter for the next service interval from the SAE viscosity grade chart.

Capacities and Specifications

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

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

Audio System

GENERAL INFORMATION

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, 540-1700, 1710 kHz
- FM: 87.9-107.7, 107.9 MHz

Radio Reception Factors	
Distance and strength	The further you travel from an AM or FM station, the weaker the signal and the weaker the reception.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.
Station overload	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 4.75-inch (12 centimeter) audio compact discs only. Due to technical incompatibility, certain recordable and re-recordable compact discs may not function correctly when used in Ford CD players.*

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. Please contact an authorized dealer for further information.*

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

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.

Audio System

- 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.

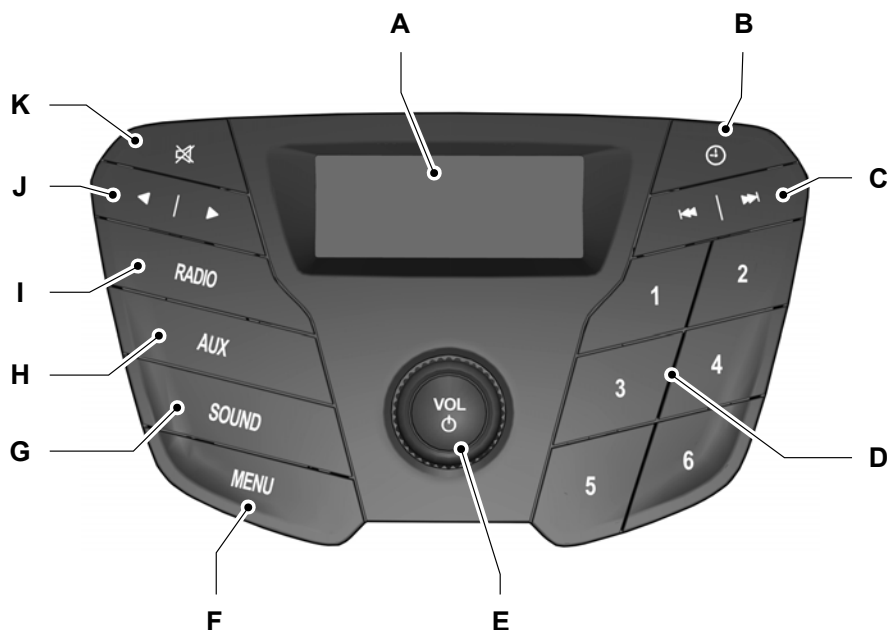
AUDIO UNIT - VEHICLES WITH: AM/FM

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.

Audio System



E175058

- A **Display:** Shows the status of the current mode selected.
- B **Clock:** Press the button to select clock setup.
- C **Seek up:** Press the button to go to the next station up the radio frequency band.
Seek down: Press the button to go to the next station down the radio frequency band.
- D **Numeric keypad:** Press the button to recall a previously stored station. To store a favorite station press and hold until the sound returns.
- E **On, Off** and **VOL:** Press the button to switch the audio system on or off. Turn the dial to adjust the volume.
- F **MENU:** Press the button to access different audio system features.
- G **Sound:** Press the button to adjust the sound settings for bass, treble, balance or fade.
- H **AUX:** Press the button to access the AUX features, it will also cancel the menu or list browsing.

Audio System

- I **Radio:** Press the button to select different radio frequency bands. Press to cancel the menu or list browsing.
- J **Cursor up or down:** Press the cursor up or down arrow buttons to adjust the settings within the menus or to move to the next radio station while listening to the radio on the **FM** or **AM** frequency band.
- K **Mute:** Press the button to mute the sound.

Clock Button

This allows you to adjust the clock settings.

Press the Clock button until the following message is displayed.

Message	Action and Description
Set Hour	Use the cursor up or down arrow buttons to set the correct hour.
Press the Clock button again until the following message is displayed.	
Set Minutes	Use the cursor up or down arrow buttons to set the correct minutes.

Setting 24 Hour or 12 Hour Display

Press the Menu button until the following message is displayed.

Message	Action and Description
24 Hour	Use the cursor up or down arrow buttons to select one of the following: 12 Hour 24 Hour

Note: The default setting is 24 hour.

Station Tuning Buttons

Seek Tuning

Select a frequency band and briefly press one of the seek buttons. The unit will stop at the first station it finds in the direction you have chosen.

Manual Tuning

Use the cursor up or down arrow buttons to tune up or down the frequency band in small increments. To increment quickly, press and hold until you find a station you want to listen to.

Audio System

Station Preset Buttons

This feature allows you to store your favorite stations. They can be recalled by selecting the appropriate frequency band and pressing one of the preset buttons.

1. Select a frequency band.
2. Tune to the station required.
3. Press and hold one of the preset buttons. The audio unit will also mute momentarily as confirmation.

You can repeat this on each frequency band and for each preset button.

Menu Button

This allows you to adjust all of the audio system settings. Press the button repeatedly until the required setting is displayed. Use the cursor up or down arrow buttons to adjust the following settings:

- Clock hour.
- Clock minutes.
- 24 hour, 12 hour.
- Bass.
- Treble.
- Balance.
- Fade.
- RDS.

Sound Button

This allows you to adjust the sound settings for bass, treble, balance or fade.

1. Press the sound button until the required setting is displayed.

2. Use the cursor up or down arrow buttons to select the required level.

Note: *Fade settings are only adjustable if there are speakers in the rear of your vehicle.*

AUX Button

Connect your media device to the audio unit. See **USB Port** (page 309).

Select your media device as the audio source by pressing the **AUX** button. After connecting your media device, the first track will start to play automatically.

AUDIO UNIT - VEHICLES WITH: PREMIUM AM/FM/CD

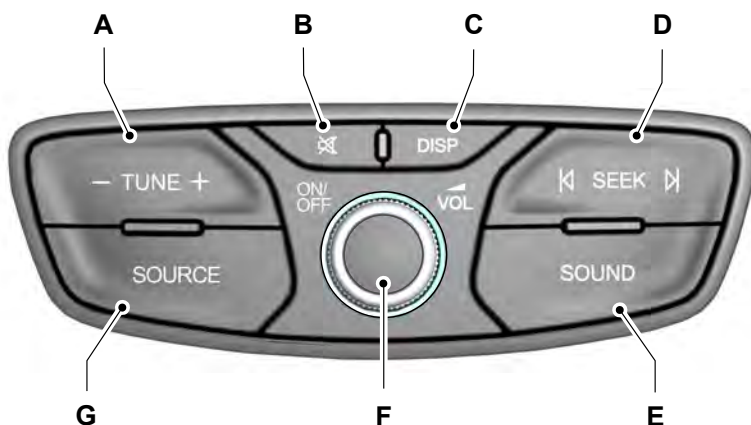
WARNING



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: *The touchscreen system controls most of the audio features. See SYNC Supplement.*

Audio System



E177140

- A **TUNE:** Press the button to manually search through the radio frequency bands. In SIRIUS mode, press these buttons to find the next or previous available satellite radio station.
- B **Mute:** Press the button to mute the sound.
- C **DISP:** Press the button to switch the display screen off.
- D **SEEK:** Press the button to go to the previous or next track or available radio station. Press and hold to either reverse or fast forward through the current track or to quickly reverse or advance through the radio bands in individual increments. In SIRIUS mode, press these buttons to select the previous or next channel. If a specific category is selected (such as Jazz, Rock or News), use these buttons to find the previous or next channel in the selected category.
- E **SOUND:** Press the button to adjust the sound settings for Bass, Treble, Balance or Fade.
- F **ON/OFF and VOL:** Press the button to switch the system on and off. Turn to adjust the volume.
- G **SOURCE:** Press the button to access different audio modes, such as AM, FM, Satellite Radio and Line In.

Audio System

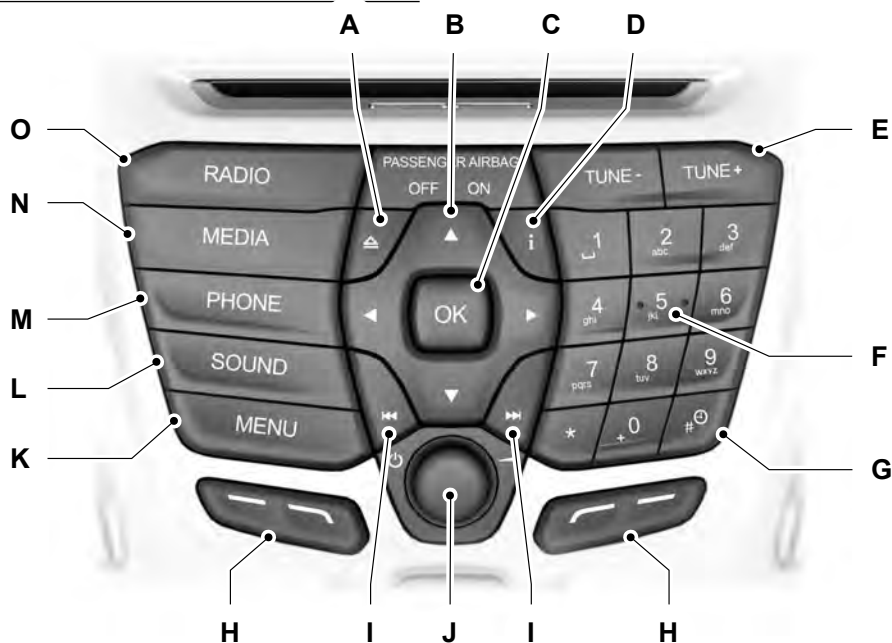
AUDIO UNIT - VEHICLES WITH: AM/FM/CD/SYNC

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: You can operate your audio system for up to one hour after you switch the ignition off. Press the on and off control to operate the system with the ignition turned off. The system automatically turns off after one hour.



E166684

Audio System

- A **Eject:** Press this button to eject a CD.
- B **Cursor arrows:** Press these buttons to scroll through on screen audio system choices.
- C **OK:** Press this button to confirm menu selections.
- D **Information:** Press this button to access any available radio or CD information.
- E **TUNE:** Press these buttons to manually search through the frequency band.
- F **Numeric keypad:** In radio mode, store your favorite radio stations. To store a radio station, tune to the station, then press and hold a preset button until sound returns. In CD mode, select a track. In phone mode, enter a phone number.
- G **Clock:** Push to access clock settings. You can also set the clock by pressing the **MENU** button and scrolling to Clock Settings.
- H **Function buttons:** Select different functions of the audio system depending on which mode you are in (such as Radio mode or CD mode).
- I **Seek:** Press and release these buttons to go to the previous or next preset radio station or disc track. Press and hold these buttons to fast forward to the previous or next strong radio station or through the current disc track.
- J **ON/OFF and VOL:** Press this button to switch the system off and on. Turn to adjust the volume.
- K **MENU:** Press this button to access different audio system features. See **Menu Structure** later in this section.
- L **SOUND:** Press this button to access settings for Treble, Middle, Bass, Fade or Balance. 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 **OK** to set or press **MENU** to exit.
- M **PHONE:** Press this button to access the phone features of the SYNC system. See **SYNC™** (page 311).
- N **MEDIA:** Press this button to switch between listening to a CD and the SYNC-Media menu. To change the SYNC-Media device (such as switching from a device plugged into the USB port to a Bluetooth audio device), press **MENU** and scroll to Select Source.
- O **RADIO:** Press this button to listen to the radio or change radio frequency bands.

Audio System

AUDIO UNIT - VEHICLES WITH: AM/FM/CD/SYNC/SATELLITE RADIO

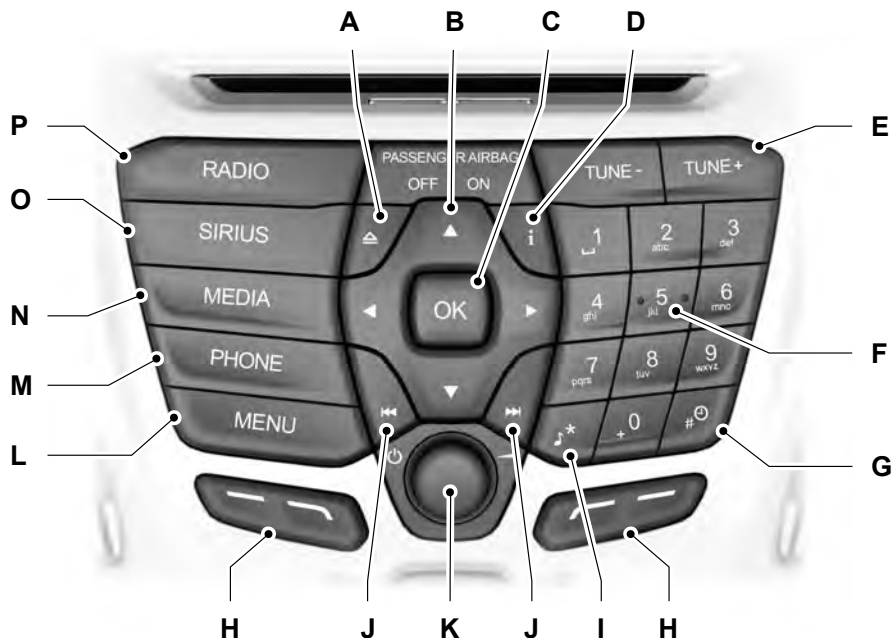
WARNING



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: You can operate your audio system for up to one hour after you switch the ignition off. Press the on and off control to operate the system with the ignition turned off. The system automatically turns off after one hour.

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



E166685

Audio System

- A **Eject:** Press this button to eject a CD.
- B **Cursor arrows:** Press these buttons to scroll through on screen audio system choices.
- C **OK:** Press this button to confirm menu selections.
- D **Information:** Press this button to access any available radio or CD information.
- E **TUNE:** Press these buttons to manually search through the frequency band.
- F **Numeric keypad:** In radio mode, store your favorite radio stations. To store a radio station, tune to the station, then press and hold a preset button until sound returns. In CD mode, select a track. In phone mode, enter a phone number.
- G **Clock:** Push to access clock settings. You can also set the clock by pressing the **MENU** button and scrolling to Clock Settings.
- H **Function buttons:** Select different functions of the audio system depending on which mode you are in (such as Radio mode or CD mode).
- I **Sound:** Press this button to access settings for Treble, Middle, Bass, Fade, or Balance. 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 **OK** to set or press **MENU** to exit.
- J **Seek:** Press and release these buttons to go to the previous or next preset radio station or disc track. Press and hold these buttons to fast forward to the previous or next strong radio station or through the current disc track.
- K **ON/OFF and VOL:** Press this button to switch the system off and on. Turn to adjust the volume.
- L **MENU:** Press this button to access different audio system features. See **Menu Structure** later in this section.
- M **PHONE:** Press this button to access the phone features of the SYNC system. See **SYNC™** (page 311).
- N **MEDIA:** Press this button to switch between listening to a CD and the SYNC-Media menu. To change the SYNC-Media device (such as switching from a device plugged into the USB port to a Bluetooth audio device), press **MENU** and scroll to Select Source.
- O **SIRIUS:** Press this button to listen to SIRIUS satellite radio.
- P **RADIO:** Press this button to listen to the radio or change radio frequency bands.

DIGITAL RADIO

Note: *HD Radio broadcasts are not available in all markets.*

HD Radio technology is the digital evolution of analog AM/FM radio. Your system has a special receiver that allows it to receive digital broadcasts (where available) in addition to the analog broadcasts, it already receives. Digital broadcasts provide a better sound quality

Audio System

than analog broadcasts with free, crystal-clear audio and no static or distortion. For more information, and a guide to available stations and programming, please visit www.hdradio.com.

When HD Radio is on and you tune to a station broadcasting HD Radio technology, you may notice the HD Radio logo on your screen. When this logo is available, you may also see Title and Artist fields on-screen.

The multicast indicator appears in FM mode (only) if the current station is broadcasting multiple digital broadcasts. The highlighted numbers signify available digital channels where new or different content is available. HD1 signifies the main programming status and is available in analog and digital broadcasts. Other multicast stations (HD2 through HD7) are only available digitally.

When HD Radio broadcasts are active, you can access the following functions:

- **Scan** allows you to hear a brief sampling of all available stations. This feature still works when HD Radio reception is on, although it does not scan for HD2-HD7 channels. You may see the HD logo appear if the station has a digital broadcast.
- **Memory presets** allow you to save an active channel as a memory preset. Touch and hold a memory preset slot until the sound returns. There is a brief mute while the radio saves the station. Sound returns when finished. When switching to an HD2 or HD3 memory preset, the sound mutes before the digital audio plays, because the system has to reacquire the digital signal.

Note: *As with any saved radio station, you cannot access the saved station if your vehicle is outside the station's reception area.*

HD Radio Reception and Station Troubleshooting

Potential reception issues	
Reception area	If you are listening to a multicast station and you are on the fringe of the reception area, the station may mute due to weak signal strength.
	If you are listening to HD1, the system switches back to the analog broadcast until the digital broadcast is available again. However, if you are listening to any of the possible HD2-HD7 multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.
Station blending	When the system first receives a station (aside from HD2-HD7 multicast stations), it first plays the station in the analog version. Once the receiver verifies the station is an HD Radio station, it shifts to the digital version. Depending on the station quality, you may hear a slight sound change when the station changes from analog to digital. Blending is the shift from analog to digital sound or digital back to analog sound.

Audio System

In order to provide the best possible experience, use the contact form to report any station issues found while listening to a station broadcasting with HD Radio

technology. Independent entities own and operate each station. These stations are responsible for ensuring all audio streams and data fields are accurate.

Potential station issues		
Issues	Cause	Action
Echo, stutter, skip or repeat in audio. Increase or decrease in audio volume.	This is poor time alignment by the radio broadcaster.	No action required. This is a broadcast issue.
Sound fading or blending in and out.	The radio is shifting between analog and digital audio.	No action required. The reception issue may clear up as you continue to drive.
There is an audio mute delay when selecting HD2 or HD3, multicast preset or Direct Tune .	The digital multicast is not available until the HD Radio broadcast is decoded. Once decoded, the audio is available.	No action required. This is normal behavior. Wait until the audio is available.
Cannot access HD2 or HD3 multicast channel when recalling a preset or from a direct tune.	The previously stored multicast preset or direct tune is not available in your current reception area.	No action required. The station is not available in your current location.
Text information does not match currently playing audio.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below.*
There is no text information shown for currently selected frequency.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below.*
HD2-HD7 stations not found when Scan is pressed.	Pressing Scan disables HD2-HD7 channel search.	No action required. This is normal behavior.

* http://www.ibiquity.com/automotive/report_radio_station_experiences

Audio System

HD Radio Technology manufactured under license from iBiquity Digital Corp. U.S. and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of iBiquity Digital Corp. Ford Motor Company and iBiquity Digital Corp. are not responsible for the content sent using HD Radio technology. Content may be changed, added or deleted at any time at the station owner's discretion.

SATELLITE RADIO (If Equipped)

SIRIUS® broadcasts a variety of music, news, sports, weather, traffic and entertainment satellite radio channels. For more information and a complete list of SIRIUS satellite radio channels, visit www.siriusxm.com in the United States, www.siriusxm.ca in Canada, or call SIRIUS at 1-888-539-7474.

Note: *This receiver includes the eCos real-time operating system. eCos is published under the eCos License.*

Satellite Radio Reception Factors

Potential satellite radio reception issues	
Antenna obstructions	For optimal reception performance, keep the antenna clear of snow and ice build-up and keep luggage and other material as far away from the antenna as possible.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.
Station overload	When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and the audio system may mute.
Satellite radio signal interference	Your display may show ACQUIRING . . . to indicate the interference and the audio system may mute.

SIRIUS® Satellite Radio Service

Note: *SIRIUS reserves the unrestricted right to change, rearrange, add or delete programming including canceling, moving or adding particular channels, and its prices, at any time, with or without notice to you. Ford Motor Company shall not be responsible for any such programming changes.*



E208625

Audio System

SIRIUS satellite radio is a subscription-based satellite radio service that broadcasts a variety of music, sports, news, weather, traffic and entertainment programming. Your factory-installed SIRIUS satellite radio system includes hardware and a limited subscription term, which begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For more information on extended subscription terms (a service fee is required), the online media player and a complete list of SIRIUS satellite radio channels, and other features, please visit www.siriusxm.com in the United States, www.siriusxm.ca in Canada, or call SIRIUS at 1-888-539-7474.

Satellite Radio Electronic Serial Number (ESN)

You need your ESN to activate, modify or track your satellite radio account. When in satellite radio mode, tune to channel 0.

Troubleshooting

Message	Condition	Action
Acquiring...	Radio requires more than two seconds to produce audio for the selected channel.	No action required. This message should disappear shortly.
Satellite antenna fault SIRIUS system failure	There is an internal module or system failure present.	If this message does not clear shortly, or with an ignition key cycle, your receiver may have a fault. See an authorized dealer for service.
Invalid Channel	The channel is no longer available.	Tune to another channel or choose another preset.
Unsubscribed Channel	Your subscription does not include this channel.	Contact SIRIUS at 1-888-539-7474 to subscribe to the channel, or tune to another channel.
No Signal	The signal is lost from the SIRIUS satellite or SIRIUS tower to your vehicle antenna.	The signal is blocked. When you move into an open area, the signal should return.
Updating...	Update of channel programming in progress.	No action required. The process may take up to three minutes.

Audio System

Message	Condition	Action
Questions? Call 1-888-539-7474	Your satellite service is no longer available.	Contact SIRIUS at 1-888-539-7474 to resolve subscription issues.
None found Check Channel Guide	All the channels in the selected category are either skipped or locked.	Use the channel guide to turn off the Lock or Skip function on that station.
Subscription Updated	SIRIUS has updated the channels available for your vehicle.	No action required.

AUDIO INPUT JACK (If Equipped)

WARNINGS



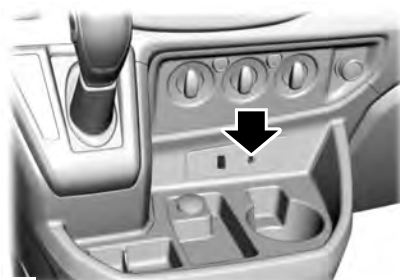
Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held 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.



For safety reasons, do not connect or adjust the settings on your portable music player while your vehicle is moving.



Store the portable music player in a secure location when your vehicle is moving, for example the glove compartment. Hard objects may become projectiles in a crash or sudden stop, which may increase the risk of serious injury.



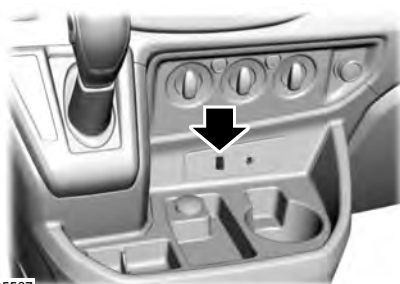
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The audio input jack allows you to connect and play music from a portable music player through your vehicle speakers. You can use any portable music player designed for use with headphones. The audio extension cable must have a 0.14 in (3.5 mm) male connector at each end. The audio extension cable must be long enough to allow the portable music player to be safely stored while your vehicle is moving.

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 portable music player into the audio input jack.
3. Switch the audio unit on. Select either a tuned FM station or a CD.

Audio System

4. Adjust the volume as desired.
5. Switch the portable music player on and adjust the volume to half its maximum level.
6. Press the **AUX** button on the audio unit. You should hear music from the portable music player even if it is low.
7. Adjust the volume on the portable music player as desired. Do this by switching back and forth between the AUX and FM or CD controls.



E185567

USB PORT

WARNINGS



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.



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



Store all devices in a secure location when your vehicle is moving, for example the glove compartment. Hard objects may become projectiles in a crash or sudden stop, which may increase the risk of serious injury.

The USB port allows you to plug in media playing devices, memory sticks and charge devices (if supported). See (page 311). The extension cable must be long enough to allow the device to be safely stored while your vehicle is moving.

MEDIA HUB (If Equipped)

The media hub is located in the center console and has the following features:



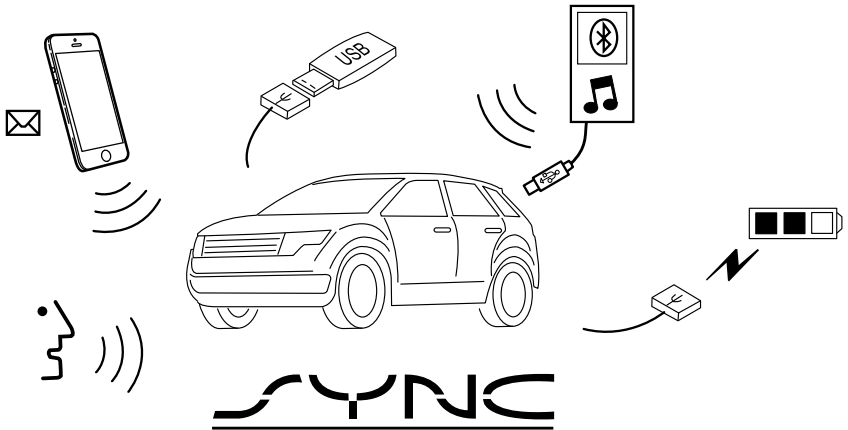
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Audio System

AUDIO TROUBLESHOOTING

Message	Description and Action
Please check CD	General error message for CD fault conditions. For example cannot read the CD, data-CD inserted, etc. Make sure the disc is loaded correctly. Clean and re-try, or replace disc with known music disc. If the error persists contact an authorized dealer.
CD drive malfunction	General error message for a mechanism fault. The system has detected a fault that requires service.
CD drive high temp.	General error message for the mechanism being too hot. The unit will not work until it has cooled down. If the error persists contact an authorized dealer.

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 64).

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 64).

When prompted say the following:

Voice command	If you want the system to carry out the following
Voice Settings Voice Preferences	
Followed by either of the following:	
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 ID.

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, www.SYNCMyRide.ca or www.syncmaroute.ca.

Pairing a 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 OK button.
FIND SYNC	1. Press the OK button. 2. Put your cell phone into Bluetooth discovery mode. See your device's manual if necessary. 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.

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 OK button.
BT DEVICES	Press the OK button.
ADD DEVICE	Press the OK button. When the following message appears in the display.
FIND SYNC	1. Press the OK button. 2. Put your cell phone into Bluetooth discovery mode. See your device's manual if necessary. 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.

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
You can then say any of the following commands.
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
You can then say any of the following:
[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.
When the system confirms the number say one of the following commands:	
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 OK button.
Select one of the following:	
PRIVACY	Press the OK button to switch a call from an active hands-free environment to your cell phone for a more private conversation.
CALL HOLD	Press the OK 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	
	1. Press the phone button. 2. Access the desired contact through SYNC or use voice commands to place the second call. Once actively in the second call, press MENU. 3. Scroll to Join Calls, and press the OK button. Wait until the following message appears.	
	JOIN CALLS	Press the OK 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	To access your phonebook contacts. 1. Press the OK button to select, and then scroll through your phonebook contacts. 2. Press the OK button again when the desired selection appears in the display. 3. Press the phone button to call the contact.	
CALL HISTORY	To access your call history log. 1. Press the OK button to select, then scroll through your call history options (incoming, outgoing or missed). 2. Press the OK button when the desired selection appears in the display. 3. Press the phone button to call the selection.	
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 OK button to redial the last number called. Press the OK button again to confirm.
PHONE REDIAL	Access any previously dialed, received or missed calls after you connect your Bluetooth-enabled cell phone to SYNC. ¹ Press the OK button then select one of the following and press the OK 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	To browse your phonebook select: BROWSE Press OK. Scroll down or up to the desired name and press OK. 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 OK. The phone number that is stored under the selected label will be shown on the display. Press OK to dial this number. To search for a contact in your phone book select: SEARCH Press OK. Scroll down until you see the first letter of your phonebook entry. Press OK. Scroll down until you see the second letter of your desired phonebook entry. Press OK.

Message	Action and Description
	Repeat entering letters to narrow your search. When you are satisfied with your entry press the right arrow key on the bezel. SYNC will jump to the phonebook contact name that matches your entry. Press OK. 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 OK. The phone number that is stored under the selected label will be shown on the display. Press OK to dial this number.
TEXT MESSAGE	Press the OK button to send, download, read and delete text messages. ¹
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. ¹
SYNC Services	Access the SYNC Services portal where you can request various types of information, for example traffic reports and directions. ³
911 Assist	Automatically place an emergency call to a 911 operator following a crash. ⁴
Vehicle Health	Create and receive a diagnostic report card on your vehicle. ³
APPLICATIONS	Interact with SYNC-capable mobile applications on your smart-phone.

Message	Action and Description
SYS SETTINGS	Access Bluetooth Devices menu listings and advanced menu listings.
EXIT MENU	Press the OK button to exit the phone menu.

¹ This is a cell phone-dependent feature.

² This is a cell phone-dependent and speed-dependent feature.

³ This is an optional feature and available in the United States only.

⁴ 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.

Note: This is a cell phone-dependent feature.

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 test 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 OK button to access and then scroll through the list of pre-defined messages to send.
FORWARD MSG	Press the OK 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 OK button.

Select one of the following:

SEND MSG?	Allows you to send a new text message based on a pre-defined set of 15 messages. 1. Press the OK button. 2. Scroll to your desired message. 3. Press the OK button. 4. Scroll through your phonebook, call history entries or enter a new number. 5. Press the OK button to enter the desired contact. 6. Press the OK 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.

Message	Action and Description
DOWNLOAD MSG	Allows you to download your unread messages to SYNC. To download the messages, press the OK 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 OK 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 OK 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 OK 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 OK to select and scroll to view the information. When done, press OK 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 OK button and scroll to hear the available options. You can also choose to use to use your phone's ring tone.
	Press the OK 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.

Message	Action and Description	
	Press the OK button then select one of the following and press the OK button again to confirm. MSG NTFY ON MSG NTFY OFF	
MODIFY PHONEBOOK	ADD CONTACTS	Press the OK 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 OK 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.
	DOWNLOAD PHONEBOOK	Press OK to select and press OK again when Confirm Download? appears.
AUTODOWNLOAD	Automatically download your phone book each time your phone connects to SYNC. Press OK to select.	
	AUTO ON?	When this message appears, press OK 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 OK button.
BT DEVICES	Press the OK button.
Select one of the following:	
ADD DEVICE	See Using SYNC™ With Your Phone (page 316). ¹
CONNECT BT	Connect a previously paired Bluetooth-enabled phone. ² Press OK 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. ³ Press OK to select and scroll to select the desired phone. Press OK to confirm.
BT ON/OFF	Turn the Bluetooth feature on and off. ⁴ Press OK and scroll to toggle between On and Off. When the desired selection is chosen, press OK . Setting Bluetooth to off disconnects all Bluetooth devices and turns off all Bluetooth features.
DEL DEVICE	Delete a paired cell phone. Press the OK button and scroll to select the device. Press OK to confirm.
DELETE ALL	Delete all previously paired phones (and all information originally saved with those phones). Press OK to select.
RETURN	Exit the current menu.

¹ This is a speed-dependent feature. It is only available when your vehicle is traveling at 3 mph (5 km/h) or less.

² You can only connect one device at a time. When another cell phone is connected, the previous one is disconnected.

³ 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 (*).

⁴ 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 OK .
ADVANCED	Press OK .
Select one of the following:	
PROMPTS	Get help from SYNC by using questions, helpful hints or asking you for a specific action. To turn these prompts on or off: 1. Press the OK button to select and scroll to select between On and Off. 2. Press the OK button when the desired selection appears in the display. SYNC returns you to the Advanced menu.
LANGUAGES	1. Press OK 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. 2. Press OK 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.
DEFAULTS	Return to the factory default settings. This selection does not erase your indexed information, for example phonebook, call history, text messages or paired devices. Press the OK button to select and then press OK again when the following message appears in the display. RESTORE?
MASTER RESET	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. Press OK to select. The display indicates when complete. SYNC returns you to the Advanced menu.
SYNC REBOOT	Press OK to select.

Message	Action and Description	
	CONFIRM REBOOT?	Press OK 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	Install applications you have downloaded. Press the OK button and scroll to select. Press the OK button to confirm.	
SYSTEM INFO	Access the Auto Version number as well as the FDN number. Press the OK button to select.	
RETURN	Exit the current menu.	

SYNC™ APPLICATIONS AND SERVICES (If Equipped)

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, www.SYNCMYRide.ca or www.syncmaroute.ca.

- SYNC Services*: Provides access to traffic, directions and information such as travel, horoscopes, stock prices and more.
- 911 Assist: Can alert 911 in the event of an emergency.
- Vehicle Health Report*: Provides a diagnostic and maintenance report card of your vehicle.

*This is an optional feature and available in the United States only.

911 Assist (If Equipped)

WARNINGS



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.



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.



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, www.SYNCMYRide.ca or www.syncmaroute.ca.

See **Supplementary Restraints System** (page 36). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 181). 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 OK button to confirm and enter the 911 Assist menu.
On Off	Press the OK 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.

Vehicle Health Report (If Equipped, United States Only)

WARNING



Always follow scheduled maintenance instructions, regularly inspect your vehicle, and seek repair for any damage or problem you suspect. Vehicle Health Report supplements, but cannot replace, normal maintenance and vehicle inspection. Vehicle Health Report only monitors certain systems electronically monitored by your vehicle and will not monitor or report the status of any other system, (such as brake lining wear). Failure to perform scheduled maintenance and regularly inspect your vehicle may result in vehicle damage and serious injury.

Note: *This feature is only available in the United States.*

Note: Your Vehicle Health Report feature requires activation before use. Visit www.SYNCMyRide.com to register. There is no fee or subscription associated with Vehicle Health Report, but you must register to use this feature.

Note: This feature may not function properly if you have enabled caller ID blocking on your cellular phone. Before running a report, review the Vehicle Health Report Privacy Notice.

Note: In order to allow a break-in period for your vehicle, you may not be able to create a Vehicle Health Report until your vehicle odometer has reached 200 miles.

Note: Cellular phone and SMS charges may apply when making a report.

Register for Vehicle Health Report and set your report preferences at www.SYNCMyRide.com. After registering, you can request a Vehicle Health Report (inside your vehicle). Return to your account at www.SYNCMyRide.com to view your report. You can also choose for SYNC to remind you automatically to run reports at specific mileage intervals.

The system allows you to check your vehicle's overall health in the form of a diagnostic report card. The Vehicle Health Report contains valuable information, for example:

- Vehicle diagnostic information
- Scheduled maintenance
- Open recalls and Field Service Actions
- Items noted during vehicle inspections by an authorized dealer that still need servicing.

You can run a vehicle health report after your vehicle has been running a minimum of 60 seconds. Choose one of the following options.

To use voice commands, press the voice button and when prompted say:

Voice command	Action and Description
Vehicle Health (Report)	The system will run a vehicle health report of your vehicle's diagnostic systems and send the results to Ford where it combines with scheduled maintenance information, open recalls, other field service actions and vehicle inspection items that still need servicing by an authorized dealer.

To use the screen, press the phone button, then scroll to:

Message	Action and Description
Vehicle Health	Press the OK button.
Select one of the following:	
Auto On?	Press the OK button and select on or off.

Message	Action and Description
	Select On to have SYNC automatically prompt you to run a health report at certain mileage intervals.*
Report Interval	Scroll to select between 5000, 7500 or 10000-mile intervals. Select your desired option and press the OK button.
Run Report	Press the OK button for SYNC to run a health report of your vehicle's diagnostic systems and send the results to Ford where it combines with scheduled maintenance information, open recalls, other field service actions and vehicle inspection items that still need servicing by an authorized dealer.
Return	Exit the current menu.

*You must first turn this feature on before you can select the desired mileage interval.

Vehicle Health Report Privacy Notice

When you create a Vehicle Health Report, Ford Motor Company may collect your cellular phone number (to process your report request) and diagnostic information about your vehicle. Certain versions or updates to Vehicle Health Report may also collect more vehicle information. Ford may use your vehicle information it collects for any purpose. If you do not want to disclose your cellular phone number or vehicle information, do not run the feature or set up your Vehicle Health Report profile at www.SYNCMyRide.com. See www.SYNCMyRide.com (Vehicle Health Report Terms and Conditions, and Privacy Statement) for more information.

SYNC Services: Traffic, Directions & Information (TDI) (If Equipped, United States Only)

Note: SYNC Services varies by trim level and model year and may require a subscription. Traffic alerts and turn-by-turn directions available in select markets. Message and data rates may apply. Ford Motor Company reserves the right to change or discontinue this product service at any time without prior notification or incurring any future obligation.

Note: SYNC Services requires activation before use. Visit www.SYNCMyRide.com to register and check your eligibility for complimentary services. Standard phone and message rates may apply. Subscription may be required. You must also have the active SYNC Services Bluetooth-enabled cellular phone paired and connected to the system in order to connect to, and use, SYNC Services. See **Using SYNC™ With Your Phone** (page 316).

Note: This feature does not function properly if you have enabled caller ID blocking on your cellular phone. Make sure your cellular phone is not blocking caller ID before using SYNC Services.

Note: 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. Any navigation features provided are only an aid. Make your driving decisions based on your observations of local conditions and existing traffic regulations. Do not follow the route suggestions if doing so would result in an unsafe or illegal maneuver, place you in an unsafe situation, or if you would be directed into an area that you consider unsafe. Maps used by this system may be inaccurate because of errors, changes in roads, traffic conditions or driving conditions.

Note: When you connect, the service uses GPS technology and advanced vehicle sensors to collect your vehicle's current location, travel direction and speed to help provide you with the directions, traffic reports, or business searches you request. Further, to provide the services you request, for continuous improvement, the service may collect and record call details and voice communications. For more information, see SYNC Services Terms and Conditions at www.SYNCMyRide.com. If you do not want Ford or its service providers to collect your vehicle travel information or other information identified in the Terms and Conditions, do not subscribe or use the service.

SYNC Services uses advanced vehicle sensors, integrated GPS technology and comprehensive map and traffic data, to give you personalized traffic reports, precise turn-by-turn directions, business search, news, sports, weather and more. For a complete list of services, or to learn more, please visit www.SYNCMyRide.com.

Connecting to SYNC Services Using Voice Commands

Press the voice button and when prompted say:

Voice command	Action and Description
Services	This initiates an outgoing call to SYNC Services using your paired and connected Bluetooth-enabled cellular phone. Once you connect to the service, follow the voice prompts to request the desired service, for example traffic or directions.
Once you are connected to SYNC Services, you can also say the following:	
(what are my (options choices) what can I say [available] commands)	Receive a list of available services from which to choose.

Voice command	Action and Description
Services	To return to the Services main menu.
Help	Receive system help.

You can say any of the voice commands that appear within open and close brackets that are separated by |. For example, where (options | choices) appears you say either; options or choices.

You must say any of the voice commands that appear outside of open and close brackets. For example, where; what are my (options | choices) appears, you must say; what are my, followed by either, options or choices.

You do not need to say words that appear within square brackets. For example, for where (what can I say [available] commands) appears, you can say, what can I say commands.

Connecting to SYNC Services Using the Phone Menu

Press the phone button, then scroll to:

Message	Action and Description
SYNC Apps	Press the OK button.
Services	1. Press the OK button. The display indicates the system is connecting. 2. Press the OK button again. SYNC initiates the call to the Services portal. 3. Once you connect to the service, follow the prompts to request the desired service, for example traffic or directions.

Receiving Turn-by-Turn Directions

When connected to SYNC Services, press the voice button and when prompted say:

Voice command	Action and Description
Directions	To receive directions to a location. Once you select your destination, the system uploads your current vehicle location, calculates a route based on current traffic conditions and sends it back to your vehicle. After the route download is complete, the phone call automatically ends. You then receive audible and visual driving instructions as you travel toward your destination.
Business search	To find a business or type of business. Select your destination, the system uploads your current vehicle location, calculates a route based on current traffic conditions and sends it back to your vehicle. After the route download is complete, the phone call automatically ends. You then receive audible and visual driving instructions as you travel toward your destination.
You can also say the following:	
Search near me	To find the closest business or type of business to your location, within business search.
Operator	If you need further assistance in finding a location at any time within a Directions or Business search and need to speak with a live operator. The live operator can assist you by searching for businesses by name or by category, residential addresses by street address or by name or specific street intersections. The system may prompt you to speak with an operator when it has difficulty matching your voice request. Operator Assist is a feature of your SYNC Services subscription. For more information on Operator Assist, visit www.SYNCMyRide.com/support .
Yes *	If you miss a turn, SYNC automatically asks if you want the route updated. Say yes when prompted and the system sends a new route to your vehicle.

* During an active route.

Disconnecting from SYNC Services

To disconnect from SYNC services, say:

Voice command	Action and Description
Goodbye	From the SYNC Services main menu, or press and hold the phone button on the steering wheel.

SYNC Services quick tips

SYNC Services quick tips	
Personalizing	You can personalize your Services feature to provide quicker access to your most used or favorite information. You can save address points, for example work or home. You can also save favorite information like sports teams or a news category. You can learn more about personalization by logging onto www.SYNCMyRide.com .
Push to interrupt	Press the voice button at any time while connected to SYNC Services to interrupt a voice prompt or an audio clip and say your voice command.
Portable	Your subscription is associated with your Bluetooth-enabled cellular phone number, not your VIN (Vehicle Identification Number). You can pair and connect your phone to any vehicle equipped with SYNC Services and continue enjoying your personalized services. You can even access your account outside your vehicle. Just use the number on your phone's call history. Traffic and Directions features do not function properly but information services and the 411 connect and text message features are available.

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 OK 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 MENU 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.

Press the Menu button to the SYNC menu and scroll to:

Menu item	Action and description
SYNC-Media	Press the OK button.
Mobile Apps	Press the OK 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
www.SYNCMYride.com

To Access Using the Media Menu

Press the **AUX** button on the center console.

For more information, please visit:

Website
www.SYNCMYride.com

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.

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 309).



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 309).

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 OK button.
USB	Press the OK 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	
Songs	
Browse USB	
Similar music	
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 ____	1,2
Play Album ____	1,2
Play Genre ____	1,2
[Play] Next Folder	3
[Play] Next Track [Play] Next Song	
Play Playlist ____	1,2
[Play] Previous Folder	3

Voice command	
[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
Search Genre ____	1,2 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.

Voice command		
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 though 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.	
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.	

¹ ____ 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".

² This voice command is not available until indexing is complete.

³ 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.
Select one of the following:		
Select Src	USB	Press the OK 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. ¹
	Bluetooth Audio	Press the OK 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.
	Line in	Press the OK button to select and play music from your portable music player over your vehicle's speakers. ²
Media Player Settings	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 SEEK to play the previous or next track. ³	
	Shuffle	Press the OK 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 OK button to repeat any song.
	Autoplay	Press the OK 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. ⁴

Message	Action and Description
Mobile Apps	Interact with SYNC-capable mobile applications on your smartphone.
Sys Settings	Access available Bluetooth Device menu listings as well as Advanced menu listings.
Exit	Press OK to exit the media menu.

¹The 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.

²If 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.

³Some digital media players require both USB and line in ports to stream data and music separately.

⁴Indexing 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 OK 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 OK button. The first track title appears in the display. Play all indexed media (tracks) from your playing device in flat file mode, one at a time in numerical order.

Message	Action and Description
Artists	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. 1. Press the OK button. You can select to play all artists or any indexed artist. 2. Scroll to choose the desired artist. Press the OK button.
Albums	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. 1. Press the OK button. You can enter the album menu and select from playing all albums or from any individual indexed album. 2. Scroll to choose the desired album. Press the OK button.
Genres	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. 1. Press the OK button. 2. Scroll to select the desired genre. Press the OK button.
Playlists	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. 1. Press the OK button. 2. Scroll to select the desired playlist. Press the OK button.
Songs	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. 1. Press the OK button. 2. Scroll to select the desired track. Press the OK button.

Message	Action and Description
Browse 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 OK button. 2. Scroll to explore indexed media on your flash drive.
Similar music	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 OK 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 OK 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 OK button.
Bluetooth device	Press the OK button.

You can then select one of the following:

Add Device	Pair more devices to the system.*

Message	Action and Description
	1. Press the OK button. When find SYNC appears in the display, press the OK button again. 2. Follow the directions in your phone's manual to put your phone into discovery mode. A six-digit PIN appears in the display. 3. When prompted on your phone's six-digit display, enter the PIN.
Connect BT	Connect a previously paired Bluetooth-enabled phone. 1. Press OK to select and view a list of devices. 2. Scroll until the desired device is chosen and press OK to connect the device.
Bluetooth On and Off	Turn the Bluetooth feature on and off.** 1. Press the OK button and scroll to toggle between on and off. 2. Make a selection and press the OK button.
Delete	Delete a paired media device. 1. Press the OK button and scroll to select the device. 2. Press the OK button to confirm.
Delete all	Delete all previously paired devices. 1. Press the OK button. 2. Press the OK button to confirm.
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 OK button.
Bluetooth device	Press the OK button.
You can then select one of the following:	
Confirmation Prompts	Have SYNC guide you by asking questions, helpful hints or ask you for a specific action. 1. Press the OK button and scroll to toggle between on and off. 2. Make a selection and press the OK button. SYNC takes you back to the Advanced menu.
Language	Choose from the available languages. The displays and prompts are in the selected language. 1. Press the OK button and scroll through the available languages. 2. Press the OK button when the desired language appears in the display. 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.
Factory Defaults	Return to the factory default settings. This selection does not erase your indexed information, for example phonebook, call history, text messages and paired devices. 1. Press the OK button. 2. Press the OK button. When restore defaults appears in the display, press the OK button again to confirm.
Master reset	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.
Install Applications	Download available software applications through the USB port.
Return	Exit the current menu.

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, www.SYNCMyRide.ca or 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.

Vehicle Health Report and Services (Traffic, Directions and Information) issues		
Issue	Possible cause(s)	Possible solution(s)
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)
	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.	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". 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. The system works better if you list full names, such as "Joe Wilson" rather than "Joe". Do not use special characters, such as 123 or ICE, as the system does not recognize them. If a contact is in CAPS, you have to spell it. JAKE requires you to say "Call J-A-K-E".

AppLink issues		
Issue	Possible cause(s)	Possible solution(s)
AppLink Mobile Applications: 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 that may cause apps that were found on your previous vehicle drive to not be found again if you have not turned off bluetooth.	Reset the Bluetooth on your phone by turning it off and then turning Bluetooth back on. If you are in your vehicle, SYNC should be able to automatically re-connect to your phone if you press the "Phone" button.

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.

Accessories

For a complete listing of the accessories that are available for your vehicle, please contact your authorized dealer or visit the online store web site:

Web Address (United States)

www.Accessories.Ford.com

Web Address (Canada)

www.Accessories.Ford.ca

Ford Motor Company will repair or replace any properly authorized dealer-installed Ford Original Accessory found to be defective in factory-supplied materials or workmanship during the warranty period, as well as any component damaged by the defective accessories. Ford Motor Company will warrant your accessory through the warranty that provides the greatest benefit:

- 24 months, unlimited miles
- The remainder of your new vehicle limited warranty

Contact an authorized dealer for details and a copy of the warranty.

Exterior Style

- Graphics.
- Hood deflector.
- Side window deflectors.
- Splash guards.
- Wheels.

Interior Style

- All-weather floor mats.
- Rear seat entertainment*.

Lifestyle

- Ash cup and smokers packages.
- Cargo area illumination.
- Cargo liners.
- Cargo organizers.
- Hitch and towing accessories.
- Roof racks and carriers*.
- Seat covers.

Peace of Mind

- Back-up alarm.
- Bumper-mounted parking sensor*.
- Hitch scan.
- Keyless entry keypad.
- Remote start.
- Vehicle security system.
- Wheel locks.

*The Ford Licensed Accessory manufacturer designs, develops and therefore warrants Ford Licensed Accessories, and does not design or test these accessories to Ford Motor Company engineering requirements. Contact an authorized Ford dealer for the manufacturer's limited warranty details, and request a copy of the Ford Licensed Accessories product limited warranty from the accessory manufacturer.

For maximum vehicle performance, keep the following information in mind when adding accessories or equipment to your vehicle:

Accessories

- When adding accessories, equipment, passengers and luggage to your vehicle, do not exceed the total weight capacity of the vehicle or of the front or rear axle (GVWR or GAWR as indicated on the Safety Compliance Certification label). Ask an authorized dealer for specific weight information.
- The Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulate the use of mobile communications systems that are equipped with radio transmitters, for example, two-way radios, telephones and theft alarms. Any such equipment installed in your vehicle should comply with Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulations and should be installed only by an authorized dealer.
- Mobile communications systems may harm the operation of your vehicle, particularly if they are not properly designed for automotive use.
- If you or an authorized Ford dealer add any non-Ford electrical or electronic accessories or components to your vehicle, you may adversely affect battery performance and durability, and may adversely affect the performance of other electrical systems in the vehicle.

AUXILIARY SWITCHES

The auxiliary switchboard on the center console makes aftermarket customization easier, with four prewired switches attached to the power distribution box for electrical accessories.



E163431

The switches only operate while the ignition is in the on position, whether the engine is running or not. It is, however, recommended that the engine remain running to maintain a battery charge when using the switches for an extended duration or higher current draws. When you switch them on they provide 20 amps of electrical battery power for a variety of uses.

A fuse and relay kit is included with this option. The kit contains the required fuses and relays that are included under the driver seat in the pre-fusebox. Refer to the instructions included with the kit. See an authorized dealer for service.

There will also be one power lead for each switch found in a four way connector located under the driver seat.

Accessories

The relays are coded as follows:

Switch	Circuit number	Wire color	Fuse
AUX 1	CAC05	Yellow	20A
AUX 2	CAC06	Green with brown trace	20A
AUX 3	CAC07	Violet with green trace	20A
AUX 4	CAC08	Brown	20A

Extended Service Plan (ESP)

PROTECT YOURSELF FROM THE RISING COST OF VEHICLE REPAIRS WITH A FORD EXTENDED SERVICE PLAN.

SERVICE PLANS (U.S. Only)

More than 32 million Ford owners have discovered the powerful protection of Ford Extended Service Plan. It is the extended service plan backed by Ford Motor Company, and provides peace of mind protection beyond the New Vehicle Limited Warranty coverage.

Ford ESP Can Quickly Pay for Itself

One service bill – the cost of parts and labor – can easily exceed the price of your Ford Extended Service Plan. With Ford ESP you minimize your risk for unexpected repair bills and rising repair costs.

Up to 1,000+ Covered Vehicle Components

There are four core 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 that we generally only discuss 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 Extended Service Plan is honored by all authorized Ford dealers in the U.S., Canada and Mexico. It is the extended service plan authorized and backed by Ford Motor Company.

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

You take advantage of replacement transportation if your vehicle is at your authorized dealer for same day covered repairs.

Extended Rental Benefits

If your vehicle is kept overnight for covered repairs, you are eligible for rental car coverage, including bumper to bumper 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.
- Destination assistance for taxi, shuttle, rental car coverage and emergency transportation.

Transferable Coverage

If you sell your vehicle before your Ford Extended Service Plan coverage expires, you can transfer any remaining coverage to the new owner. Whenever you sell your vehicle, prospective buyers may have a higher degree of confidence that vehicle was properly maintained with Ford ESP, thereby improving resale value.

Extended Service Plan (ESP)

Avoid the Rising Cost of Properly Maintaining Your Vehicle!

Ford 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 affording your vehicle's maintenance. It covers regular checkups, routine inspections, preventive care and replacement of select items that require periodic attention for normal wear:

- Windshield wiper blades.
- Spark plugs.
- The clutch disc.
- Brake pads and linings.
- Shock absorbers.
- Struts.
- Engine Belts.
- Engine coolant hoses, clamps and o-rings.
- Diesel exhaust fluid replenishment.

Interest Free Finance Options Available

Take advantage of our interest free installment payment plan. 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 ESP has to offer while paying over time. You are pre-approved with no credit checks, no hassles! To learn more, call our Ford ESP specialists at 800-367-3377.

Ford ESP
P.O. Box 321067
Detroit, MI 48232

SERVICE PLANS (CANADA ONLY)

You can get more protection for your vehicle by purchasing a Ford Extended Service Plan. Ford Extended Service Plan is the only service contract backed by Ford Motor Company of Canada, Limited. Depending on the plan you purchase, Ford 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 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 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 Extended Service Plan coverage.*

This information is subject to change. For more information, visit your local Ford of Canada dealer or www.ford.ca to find the Ford Extended Service Plan that is right for you.

Scheduled Maintenance

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 correct times. These intervals serve two purposes; one is to maintain the reliability of your vehicle and the second is to keep the 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 274).

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 12-month or 12,000 mi (20,000 km) 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 crash 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 correct performance of your vehicle and its emission control systems, make sure you have scheduled maintenance performed at the designated intervals.

Vehicles with a 3.2L, 3.5L or 3.7L Engine

Your vehicle is equipped with the Intelligent Oil-Life Monitor system, which displays a message in the information display at the correct oil change interval. This interval may be up to one year or 10,000 mi (16,000 km).

Scheduled Maintenance

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 miles (800 kilometers) of the message appearing. Make sure you reset the Intelligent Oil-Life Monitor after each oil change. See **Changing the Engine Oil and Oil Filter** (page 213).

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.

All Vehicles

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 correctly 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.

Check every month
Engine oil level.
Function of all interior and exterior lights.
Tires (including spare) for wear and correct pressure.
Windshield washer fluid level.

Scheduled Maintenance

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 correct operation. Lubricate if necessary.
Parking brake for correct 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 correctly, 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 correctly.

Multi-point inspection
Accessory drive belt(s).
Battery performance.
Engine air filter.
Exhaust system.

Multi-point inspection
Exterior lamps and hazard warning system operation.
Fluid levels*; fill if necessary.
For oil and fluid leaks.
Horn operation.
Radiator, cooler, heater and A/C hoses.
Suspension component for leaks or damage.
Steering and linkage.
Tires (including spare) for wear and correct pressure**.
Windshield for cracks, chips or pits.
Washer spray and wiper operation.

* Brake, coolant recovery reservoir, automatic transmission, power steering (if equipped with hydraulic power assist steering) and window washer.

**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.

Scheduled Maintenance

NORMAL SCHEDULED MAINTENANCE

Intelligent Oil-Life Monitor® (Vehicles with a 3.2L, 3.5L and 3.7L Engine)

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.

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.

When to expect the oil change message	
Interval	Vehicle use and example
7500-10000 miles (12000-16000 km)	Normal
	Normal commuting with highway driving. No, or moderate, load or towing. Flat to moderately hilly roads. No extended idling.
5000-7499 miles (8000-11999 km)	Severe
	Moderate to heavy load or towing. Mountainous or off-road conditions. Extended idling. Extended hot or cold operation.
3000-4999 miles (4800-7999 km)	Extreme
	Maximum load or towing. Extreme hot or cold operation.

Scheduled Maintenance

Normal Maintenance Intervals

3.2L, 3.5L and 3.7L Engines

At every oil change interval as indicated by the information display [*]
Change engine oil and filter. ^{**}
Rotate tires, inspect tire wear and measure tread depth.
Perform a multi-point inspection (recommended).
Inspect the automatic transmission fluid level (if equipped with dipstick). Consult your dealer for requirements.
Inspect the brake pads, shoes, rotors, drums, brake linings, hoses and parking brake.
Inspect the engine cooling system strength and hoses.
Inspect the exhaust system and heat shields.
Inspect front axle and U-joints. Lubricate if equipped with grease fittings.
Inspect the steering linkage, ball joints, suspension, tire-rod ends, driveshaft and U-joints. Lubricate any areas with grease fittings.
Diesel engine fill diesel exhaust fluid.
Inspect the wheels and related components for abnormal noise, wear, looseness or drag.

^{*} Do not exceed one year or 10000 miles (16000 kilometers) between service intervals.

^{**} Reset the Intelligent Oil-Life Monitor after engine oil and filter changes.

Other maintenance items ¹	
Every 30000 miles (48000 km)	Torque rear axle U-bolts to specification.
	Diesel engine replace fuel filter. ²
	Replace engine air filter.
Every 45000 miles (70000 km)	Change diesel foam air filter.
At 100000 miles (160000 km)	Change engine coolant. ³

Scheduled Maintenance

Other maintenance items ¹	
Every 100000 miles (160000 km)	Replace spark plugs.
	Inspect accessory drive belt(s). ⁴
Every 150000 miles (240000 km)	Change automatic transmission fluid and filter.
	Change rear axle fluid.
	Replace accessory drive belt(s).

¹ Perform these maintenance items within 3000 miles (4800 kilometers) of the last engine oil and filter change. Do not exceed the designated distance for the interval.

² Replace early if indicated by per Water In Fuel warning lamp. See **Warning Lamps and Indicators** (page 78).

³ Initial replacement at six years or 100000 miles (160000 kilometers), then every three years or 50000 miles (80000 kilometers).

⁴ After initial inspection, inspect every other oil change until replaced.

SPECIAL OPERATING CONDITIONS SCHEDULED MAINTENANCE

3.2L, 3.5L and 3.7L Engines

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 3000 miles (4800 kilometers) of the oil change required message appearing in the information display.

- **Example 1:** The message appears at 28,750 mi (46,270 km). Perform the 30,000 mi (48,000 km) automatic transmission fluid replacement.
- **Example 2:** The message does not appear, 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.

Scheduled Maintenance

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 and lubricate U-joints.
	See axle maintenance items under Exceptions .
Every 60000 miles (96000 km)	Replace spark plugs.

Extensive idling or low-speed driving for long distances, as in heavy commercial use (such as delivery, taxi, patrol car or livery)	
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 engine air filter.
Every 60000 miles (96000 km)	Replace spark plugs.

Operating in dusty or sandy conditions (such as unpaved or dusty roads)	
Inspect frequently, service as required	Replace engine air filter.
Every 5000 miles (8000 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 5000 miles (8000 km) or six months	Change engine oil and filter.*

*Reset your Intelligent Oil-Life Monitor after each engine oil and filter change.

Scheduled Maintenance

Off-road operation	
Inspect frequently, service as required	Inspect steering linkage, ball joints and U-joints. Lubricate if equipped with grease fittings.
	Replace engine air filter.
Every 5000 miles (8000 km) or six months	Change engine oil and filter.*
	Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
	Rotate tires, inspect tires for wear and measure tread depth.

*Reset your Intelligent Oil-Life Monitor after each engine oil and filter change.

Exclusive use of E85 (Flex fuel vehicles only)	
Every oil change interval	If ran exclusively on E85, fill the fuel tank full with regular unleaded fuel.

Exceptions

There are several exceptions to the Normal Schedule:

Normal vehicle axle maintenance: Rear axles and power take-off units with synthetic fluid and light-duty trucks equipped with Ford-design axles are lubricated for life; do not check or change fluid unless a leak is suspected, service is required or the assembly has been submerged in water. During long periods of trailer towing with outside temperatures above 70°F (21°C) and at wide-open throttle for long periods above 45 mph (72 km/h), change non-synthetic rear axle fluid every 3,000 mi (4,800 km) or three months, whichever comes first. This interval can be waived if the axle is filled with 75W140 synthetic gear fluid meeting

Ford specification WSL-M2C192-A or equivalent. Add friction modifier XL-3 EST-M2C118-A or equivalent for complete refill of Traction-Lok rear axles. See **Capacities and Specifications** (page 274).

Police, Taxi and Livery vehicle axle maintenance: Change rear axle fluid every 100,000 mi (160,000 km). Rear axle fluid change may be waived if the axle was filled with 75W140 synthetic gear fluid meeting Ford specification WSL-M2C192-A or equivalent. Add four ounces (118 milliliters) of additive friction modifier XL-3 EST-M2C118-A, or equivalent, for complete refill of Traction-Lok rear axles. Change the axle fluid anytime the axle submerges in water.

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

Scheduled Maintenance

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 replacement: The life of the engine 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.

SCHEDULED MAINTENANCE RECORD

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☐ Engine hours (optional):	
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Scheduled Maintenance

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Scheduled Maintenance

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END USER LICENSE AGREEMENT

VEHICLE SOFTWARE END USER LICENSE AGREEMENT (EULA)

- You ("You" or "Your" as applicable) have acquired a vehicle having several devices, including SYNC ® and various control modules, ("DEVICES") that include software licensed or owned by Ford Motor Company and its affiliates ("FORD MOTOR COMPANY"). Those software products of FORD MOTOR COMPANY origin, as well as associated media, printed materials, and "online" or electronic documentation ("SOFTWARE") are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.
- The SOFTWARE may interface with and/or communicate with, or may be later upgraded to interface with and/or communicate with additional software and/or systems provided by FORD MOTOR COMPANY.

IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT ("EULA") DO NOT USE THE DEVICES OR COPY THE SOFTWARE. ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE ON THE DEVICES, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).

GRANT OF SOFTWARE LICENSE: This EULA grants you the following license:

- You may use the SOFTWARE as installed on the DEVICES and as otherwise interfacing with systems and/or services provide by or through FORD MOTOR COMPANY or its third party software and service providers.

Description of Other Rights and Limitations

- **Speech Recognition:** If the SOFTWARE includes speech recognition component(s), you should understand that speech recognition is an inherently statistical process and that recognition errors are inherent in the process. Neither FORD MOTOR COMPANY nor its suppliers shall be liable for any damages arising out of errors in the speech recognition process. It is your responsibility to monitor any speech recognition functions included in the system.
- **Limitations on Reverse Engineering, Decompilation and Disassembly:** You may not reverse engineer, decompile, translate, disassemble or attempt to discover any source code or underlying ideas or algorithms of the SOFTWARE nor permit others to reverse engineer, decompile or disassemble the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.
- **Limitations on Distributing, Copying, Modifying and Creating Derivative Works:** You may not distribute, copy, make modifications to or create derivative works based on the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.

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- **Single EULA:** The end user documentation for the DEVICES and related systems and services may contain multiple EULAs, such as multiple translations and/or multiple media versions (e.g., in the user documentation and in the software). Even if you receive multiple EULAs, you are licensed to use only one (1) copy of the SOFTWARE.
- **SOFTWARE Transfer:** You may permanently transfer your rights under this EULA only as part of a sale or transfer of the DEVICES, provided you retain no copies, you transfer all of the SOFTWARE (including all component parts, the media and printed materials, any upgrades, and, if applicable, the Certificate(s) of Authenticity), and the recipient agrees to the terms of this EULA. If the SOFTWARE is an upgrade, any transfer must include all prior versions of the SOFTWARE.
- **Termination:** Without prejudice to any other rights, FORD MOTOR COMPANY may terminate this EULA if you fail to comply with the terms and conditions of this EULA.
- **Internet-Based Services Components:** The SOFTWARE may contain components that enable and facilitate the use of certain Internet-based services. You acknowledge and agree that FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent may automatically check the version of the SOFTWARE and/or its components that you are utilizing and may provide upgrades or supplements to the SOFTWARE that may be automatically downloaded to your DEVICES.
- **Additional Software/Services:** The SOFTWARE may permit FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent to provide or make available to you SOFTWARE updates, supplements, add-on components, or Internet-based services components of the SOFTWARE after the date you obtain your initial copy of the SOFTWARE ("Supplemental Components".) SOFTWARE updates may cause you to incur additional charges from your wireless service provider. If FORD MOTOR COMPANY or third party software and services suppliers provide or make available to you Supplemental Components and no other EULA terms are provided along with the Supplemental Components, then the terms of this EULA shall apply. FORD MOTOR COMPANY, its affiliates and/or its designated agent reserve the right to discontinue without liability any Internet-based services provided to you or made available to you through the use of the SOFTWARE.

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- **Links to Third Party Sites:** The SOFTWARE may provide you with the ability to link to third party sites. The third party sites are not under the control of FORD MOTOR COMPANY, its affiliates and/or its designated agent. Neither FORD MOTOR COMPANY nor its affiliates nor its designated agent are responsible for (i) the contents of any third party sites, any links contained in third party sites, or any changes or updates to third party sites, or (ii) webcasting or any other form of transmission received from any third party sites. If the SOFTWARE provides links to third party sites, those links are provided to you only as a convenience, and the inclusion of any link does not imply an endorsement of the third party site by FORD MOTOR COMPANY, its affiliates and/or its designated agent.
- **Obligation to Drive Responsibly:** You recognize your obligation to drive responsibly and keep attention on the road. You will read and abide with the DEVICES operating instructions particularly as they pertain to safety and you agree to assume any risk associated with the use of the DEVICES.

UPGRADES AND RECOVERY MEDIA:

If the SOFTWARE is provided by FORD MOTOR COMPANY separate from the DEVICES on media such as a ROM chip, CD ROM disk(s) or via web download or other means, and is labeled "For Upgrade Purposes Only" or "For Recovery Purposes Only" you may install one (1) copy of such SOFTWARE onto the DEVICES as a replacement copy for the existing SOFTWARE, and use it in accordance with this EULA, including any additional EULA terms accompanying the upgrade SOFTWARE.

INTELLECTUAL PROPERTY RIGHTS:

All title and intellectual property rights in and to the SOFTWARE (including but not limited to any images, photographs, animations, video, audio, music, text and "applets" incorporated into the SOFTWARE), the accompanying printed materials, and any copies of the SOFTWARE, are owned by FORD MOTOR COMPANY, or its affiliates or suppliers. The SOFTWARE is licensed, not sold. You may not copy the printed materials accompanying the SOFTWARE. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content outside its intended use. All rights not specifically granted under this EULA are reserved by FORD MOTOR COMPANY, its affiliates, and third party software and service providers and suppliers. Use of any on-line services which may be accessed through the SOFTWARE may be governed by the respective terms of use relating to such services. If this SOFTWARE contains documentation that is provided only in electronic form, you may print one copy of such electronic documentation.

EXPORT RESTRICTIONS: You acknowledge that the SOFTWARE is subject to U.S. and European Union export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments.

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TRADEMARKS: This EULA does not grant you any rights in connection with any trademarks or service marks of FORD MOTOR COMPANY, its affiliates, and third party software and service providers.

PRODUCT SUPPORT: Please refer to FORD MOTOR COMPANY instructions provided in the documentation for the DEVICES product support, such as the vehicle owner guide.

Should you have any questions concerning this EULA, or if you desire to contact FORD MOTOR COMPANY for any other reason, please refer to the address provided in the documentation for the DEVICES.

No Liability for Certain Damages: EXCEPT AS PROHIBITED BY LAW, FORD MOTOR COMPANY, ANY THIRD PARTY SOFTWARE OR SERVICES SUPPLIERS, AND THEIR AFFILIATES SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. THERE ARE NO WARRANTIES OTHER THAN THOSE THAT MAY BE EXPRESSLY PROVIDED FOR YOUR NEW VEHICLE.

SYNC® Automotive Important Safety Information Read and follow instructions:

- Before using your SYNC® system, read and follow all instructions and safety information provided in this end user manual ("Owner Guide".) Not following precautions found in the Owner Guide can lead to an accident or other serious injuries.

General Operation

- **Voice Command Control:** Certain functions within the SYNC® system may be accomplished using voice commands. Using voice commands while driving helps you to operate the system without removing your hands from the wheel or eyes from the road.
- **Prolonged Views of Screen:** Do not access any function requiring a prolonged view of the screen while you are driving. Pull over in a safe and legal manner before attempting to access a function of the system requiring prolonged attention.
- **Volume Setting:** Do not raise the volume excessively. Keep the volume at a level where you can still hear outside traffic and emergency signals while driving. Driving while unable to hear these sounds could cause an accident.
- **Navigation Features:** Any navigation features included in the system are intended to provide turn by turn instructions to get you to a desired destination. Please make certain all persons using this system carefully read and follow instructions and safety information fully.
- **Distraction Hazard:** Any navigation features may require manual (non-verbal) setup. Attempting to perform such set-up or insert data while driving can distract your attention and could cause an accident or other serious injury. Stop the vehicle in a safe and legal manner before attempting these operations.
- **Let Your Judgment Prevail:** Any navigation features are provided only as an aid. Make your driving decisions based on your observations of local conditions and existing traffic regulations. Any such feature is not a

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substitute for your personal judgment. Any route suggestions made by this system should never replace any local traffic regulations or your personal judgment or knowledge of safe driving practices.

- **Route Safety:** Do not follow the route suggestions if doing so would result in an unsafe or illegal maneuver, if you would be placed in an unsafe situation, or if you would be directed into an area that you consider unsafe. The driver is ultimately responsible for the safe operation of the vehicle and therefore, must evaluate whether it is safe to follow the suggested directions.
- **Potential Map Inaccuracy:** Maps used by this system may be inaccurate because of changes in roads, traffic controls or driving conditions. Always use good judgment and common sense when following the suggested routes.
- **Emergency Services:** Do not rely on any navigation features included in the system to route you to emergency services. Ask local authorities or an emergency services operator for these locations. Not all emergency services such as police, fire stations, hospitals and clinics are likely to be contained in the map database for such navigation features.

Your Responsibilities and Assumptions of Risk

- You agree to each of the following: (a) Any use of the SOFTWARE while driving an automobile or other vehicle in violation of applicable law or otherwise driving in an unsafe manner presents a significant risk of distracted driving and should not be attempted under any circumstances; (b) Use of the SOFTWARE at excessive volume poses a significant risk of hearing damage and should not be attempted under any circumstances; (c) The SOFTWARE may not be compatible with new or different versions of an operating system, third party software, or third party services, and the SOFTWARE may potentially cause a critical failure of an operating system, third party software, or third party service. (d) Any third party service accessed by or third party software used with the SOFTWARE (i) may charge an additional fee for access, (ii) may not work correctly, on an uninterrupted basis, or error free, (iii) may change streaming formats or discontinue operation, (iv) may contain adult, profane or offensive content; and (v) may contain inaccurate, false or misleading traffic, weather, financial or safety information or other content; and (e) Use of the SOFTWARE may cause you to incur additional charges from your wireless service provider (WSP) and any data or minute calculators that may be included in the software program are for reference only, are not warranted in any way and should not be relied upon in anyway.
- When using the SOFTWARE, you agree to be responsible for and assume the entire risk to the items set forth in Section (a) – (e) above.

Disclaimer of Warranty

YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT USE OF THE DEVICES AND SOFTWARE IS AT YOUR SOLE RISK AND THAT THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, COMPATIBILITY, ACCURACY AND EFFORT IS WITH YOU. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE SOFTWARE AND ANY THIRD PARTY SOFTWARE OR THIRD-PARTY SERVICES ARE PROVIDED "AS IS" AND "AS AVAILABLE", WITH ALL FAULTS AND WITHOUT WARRANTY OF ANY KIND, AND FORD MOTOR COMPANY HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH RESPECT TO THE SOFTWARE, THIRD PARTY SOFTWARE, AND THIRD-PARTY SERVICES, EITHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY, OF SATISFACTORY QUALITY, OF FITNESS FOR AN PARTICULAR PURPOSE, OF ACCURACY, OF QUIET ENJOYMENT, AND NON-INFRINGEMENT OF THIRD-PARTY RIGHTS. FORD MOTOR COMPANY DOES NOT WARRANT (a) AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES, (b) THAT THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL MEET YOUR REQUIREMENTS, (c) THAT THE OPERATION OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE UNINTERRUPTED OR ERROR-FREE, (d) OR THAT DEFECTS IN THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY FORD MOTOR COMPANY OR ITS AUTHORIZED REPRESENTATIVE SHALL

CREATE A WARRANTY. SHOULD THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. SOME JURISDICTIONS DO NOT ALLOW THE DISCLAIMER OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO THE ABOVE DISCLAIMER MAY NOT FULLY APPLY TO YOU. THE SOLE WARRANTY PROVIDED BY FORD MOTOR COMPANY SHALL BE FOUND IN THE WARRANTY INFORMATION INCLUDING WITH YOUR OWNER GUIDE. TO THE EXTENT THAT THERE IS ANY CONFLICT BETWEEN THE TERMS OF THIS SECTION AND THE WARRANTY BOOKLET, THE WARRANTY BOOKLET SHALL CONTROL.

Applicable Law, Venue, Jurisdiction

- The laws of the State of Michigan govern this EULA and Your use of the SOFTWARE. Your use of the SOFTWARE may also be subject to other local, state, national, or international laws. Any litigation arising out of or related to this EULA shall be brought and maintained exclusively in a court of the State of Michigan located in Wayne County or in the United States District Court for the Eastern District of Michigan. You hereby consent to submit to the personal jurisdiction of a court in the State of Michigan located in Wayne County and the United States District Court for the Eastern District of Michigan for any dispute arising out of or relating to this EULA.

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Binding Arbitration and Class Action Waiver

(a) Application. This Section applies to any dispute EXCEPT IT DOES NOT INCLUDE A DISPUTE RELATING TO COPYRIGHT INFRINGEMENT, OR TO THE ENFORCEMENT OR VALIDITY OF YOUR, FORD MOTOR COMPANY, OR ANY OF FORD MOTOR COMPANY'S LICENSORS' INTELLECTUAL PROPERTY RIGHTS. Dispute means any dispute, action, or other controversy between You and FORD MOTOR COMPANY, other than the exceptions listed above, concerning the SOFTWARE (including its price) or this EULA, whether in contract, warranty, tort, statute, regulation, ordinance, or any other legal or equitable basis.

(b) Notice of Dispute. In the event of a Dispute, You or FORD MOTOR COMPANY must give the other a "Notice of Dispute", which is a written statement of the name, address, and contact information of the party giving it, the facts giving rise to the dispute, and the relief requested. You and FORD MOTOR COMPANY will attempt to resolve any dispute through informal negotiation within 60 days from the date the Notice of Dispute is sent. After 60 days, You or FORD MOTOR COMPANY may commence arbitration.

(c) Small claims court. You may also litigate any dispute in small claims court in your county of residence or FORD MOTOR COMPANY'S principal place of business, if the dispute meets all requirements to be heard in the small claims court. You may litigate in small claims court whether or not You negotiated informally first.

(d) Binding arbitration. If You and FORD MOTOR COMPANY, do not resolve any dispute by informal negotiation or in small claims court, any other effort to resolve the dispute will be conducted exclusively by binding arbitration. You are giving up

the right to litigate (or participate in as a party or class member) all disputes in court before a judge or jury. Instead, all disputes will be resolved before a neutral arbitrator, whose decision will be final except for a limited right of appeal under the Federal Arbitration Act. Any court with jurisdiction over the parties may enforce the arbitrator's award.

(e) Class action waiver. Any proceedings to resolve or litigate any dispute in any forum will be conducted solely on an individual basis. Neither you nor FORD MOTOR COMPANY, will seek to have any dispute heard as a class action, as a private attorney general action, or in any other proceeding in which any party acts or proposes to act in a representative capacity. No arbitration or proceeding will be combined with another without the prior written consent of all parties to all affected arbitrations or proceedings.

(f) Arbitration procedure. Any arbitration will be conducted by the American Arbitration Association (the "AAA"), under its Commercial Arbitration Rules. If You are an individual and use the SOFTWARE for personal or vehicle use, or if the value of the dispute is \$75,000 or less whether or not You are an individual or how You use the SOFTWARE, the AAA Supplementary Procedures for Consumer-Related Disputes will also apply. To commence arbitration, submit a Commercial Arbitration Rules Demand for Arbitration form to the AAA. You may request a telephonic or in-person hearing by following the AAA rules. In a dispute involving \$10,000 or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. For more information, see adr.org 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

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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. **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 <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:

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(a) observe all traffic laws and otherwise drive safely;

(b) use your own personal judgment while driving. If you feel that a route suggested by the TeleNav Software instructs you to perform an unsafe or illegal maneuver, places you in an unsafe situation, or directs you into an area that you consider to be unsafe, do not follow such instructions;

(c) do not input destinations, or otherwise manipulate the TeleNav Software, unless your vehicle is stationary and parked;

(d) do not use the TeleNav Software for any illegal, unauthorized, unintended, unsafe, hazardous, or unlawful purposes, or in any manner inconsistent with this Agreement;

(e) arrange all GPS and wireless devices and cables necessary for use of the TeleNav Software in a secure manner in your vehicle so that they will not interfere with your driving and will not prevent the operation of any safety device (such as an airbag).

You agree to indemnify and hold TeleNav harmless against all claims resulting from any dangerous or otherwise inappropriate use of the TeleNav Software in any moving vehicle, including as a result of your failure to comply with the directions above.

2. Account Information

You agree: (a) when registering the TeleNav Software, to provide TeleNav with true, accurate, current, and complete information about yourself, and (b) to inform TeleNav promptly of any changes to such information, and to keep it true, accurate, current and complete.

3. Software License

- Subject to your compliance with the terms of this Agreement, TeleNav hereby grants to you a personal, non-exclusive, non-transferable license (except as expressly permitted below in connection with your permanent transfer of the TeleNav Software license), without the right to sublicense, to use the TeleNav Software (in object code form only) in order to access and use the TeleNav Software. This license shall terminate upon any termination or expiration of this Agreement. You agree that you will use the TeleNav Software only for your personal business or leisure purposes, and not to provide commercial navigation services to other parties.

3.1 License Limitations

- **(a)** reverse engineer, decompile, disassemble, translate, modify, alter or otherwise change the TeleNav Software or any part thereof; **(b)** attempt to derive the source code, audio library or structure of the TeleNav Software without the prior express written consent of TeleNav; **(c)** remove from the TeleNav Software, or alter, any of TeleNav's or its suppliers' trademarks, trade names, logos, patent or copyright notices, or other notices or markings; **(d)** 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,

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ii. violates any law, statute, ordinance or regulation, including but not limited to laws and regulations related to spamming, privacy, consumer and child protection, obscenity or defamation, or

iii. is harmful, threatening, abusive, harassing, tortuous, defamatory, vulgar, obscene, libelous, or otherwise objectionable; and (f) lease, rent out, or otherwise permit unauthorized access by third parties to the TeleNav Software without advanced written permission of TeleNav.

4. Disclaimers

- To the fullest extent permissible pursuant to applicable law, in no event will TeleNav, its licensors and suppliers, or agents or employees of any of the foregoing, be liable for any decision made or action taken by you or anyone else in reliance on the information provided by the TeleNav Software. TeleNav also does not warrant the accuracy of the map or other data used for the TeleNav Software. Such data may not always reflect reality due to, among other things, road closures, construction, weather, new roads and other changing conditions. You are responsible for the entire risk arising out of your use of the TeleNav Software. For example but without limitation, you agree not to rely on the TeleNav Software for critical navigation in areas where the well-being or survival of you or others

is dependent on the accuracy of navigation, as the maps or functionality of the TeleNav Software are not intended to support such high risk applications, especially in more remote geographical areas.

- TELENAV EXPRESSLY DISCLAIMS AND EXCLUDES ALL WARRANTIES IN CONNECTION WITH THE TELENAV SOFTWARE, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES WHICH MAY ARISE FROM COURSE OF DEALING, CUSTOM OR TRADE AND INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS WITH RESPECT TO THE TELENAV SOFTWARE.
- Certain jurisdictions do not permit the disclaimer of certain warranties, so this limitation may not apply to you.

5. Limitation of Liability

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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.

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