## **Cross Traffic Alert**

3. Switch **Cross Traffic Alert** on or off.

When you switch the system on or off, the alert indicators flash twice.

**Note:** The system switches on every time you switch the ignition on.

# LOCATING THE CROSS TRAFFIC ALERT SENSORS



The sensors are behind the rear bumper on both sides of your vehicle.

**Note:** Keep the sensors free from snow, ice and large accumulations of dirt.

**Note:** Do not cover the sensors with bumper stickers, repair compound or other objects.

**Note:** Blocked sensors may affect system accuracy.

**Note:** Bike and cargo racks could cause false alerts due to obstruction of the sensor. We recommend switching the feature off when using a bike or cargo rack.

If something is blocking the sensors, a message may appear in the information display when you shift into reverse (R).

# CROSS TRAFFIC ALERT INDICATORS

When the cross traffic alert detects an approaching vehicle, a tone sounds, a warning lamp illuminates in the relevant exterior mirror and arrows appear in the instrument cluster display to show from which side the vehicle is approaching.

If the system malfunctions, a warning lamp illuminates in the instrument cluster and a message appears in the instrument cluster display. Have your vehicle checked as soon as possible.

**Note:** In some conditions, the system could alert you, even when there is nothing in the detection zone, for example a vehicle passing further away from your vehicle.

## **Cross Traffic Alert**

## **CROSS TRAFFIC ALERT – TROUBLESHOOTING**

## **CROSS TRAFFIC ALERT – INFORMATION MESSAGES**

Message	Action
Cross Traffic Alert	Displays instead of indication arrows when the system detects a vehicle. Check for approaching traffic.
Cross Traffic Not Available Sensor Blocked See Manual	Indicates blocked cross traffic alert system sensors. Clean the sensors. If the message continues to appear, have your vehicle checked as soon as possible.
Cross Traffic System Fault	The system has malfunctioned. Have your vehicle checked as soon as possible.

# WHAT IS PRE-COLLISION ASSIST

Pre-collision assist detects and warns of approaching hazards in the roadway. The system provides multiple levels of assistance to help avoid a collision if your vehicle is rapidly approaching another stationary vehicle, a vehicle traveling in the same direction as yours, or a pedestrian or cyclist within your driving path.

# HOW DOES PRE-COLLISION ASSIST WORK

The system warns the driver of potential hazards by providing three levels of assistance.



If your vehicle is rapidly approaching potential hazards the system provides the following levels of functionality:

- 1. Alert.
- 2. Brake support.
- 3. Automatic emergency braking.



**Alert**: When active, a flashing visual warning appears and an audible warning tone sounds.

**Brake Support**: The system helps reduce the impact speed by preparing the brakes for rapid braking. The system does not automatically apply the brakes. If you press the brake pedal, the system may apply additional braking up to maximum braking force, even if you lightly press the brake pedal.

### **Automatic Emergency Braking:**

Automatic emergency braking may activate if the system determines that a collision is imminent.

**Note:** If the pre-collision assist alerts are too frequent or disturbing, you can reduce the alert sensitivity. Setting the low sensitivity results in fewer and later warnings of a potential forward collision. The manufacturer recommends using the high sensitivity setting where possible.

**Note:** Automatic emergency braking performance is not affected by the sensitivity setting.

Each system has various levels of detection capabilities. See **Pre-Collision Assist Limitations** (page 250).

# PRE-COLLISION ASSIST PRECAUTIONS

**WARNING:** You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** The system does not detect vehicles moving in a different direction or animals. Apply the brakes when necessary. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** The system does not operate during hard acceleration or steering. Failure to take care may lead to a crash or personal injury.

warning: The system may operate with reduced function during cold and inclement weather conditions. Snow, ice, rain, spray and fog can adversely affect the system. Keep the front camera and radar free of snow and ice. Failure to follow this instruction may result in the loss of control of your vehicle, serious personal injury or death.

warning: Take additional care if your vehicle is heavily loaded or you are towing a trailer. These conditions could result in reduced performance of this system. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** The system cannot help prevent all crashes. Do not rely on this system to replace driver judgment and the need to maintain a safe distance and speed.

warning: System performance could be reduced in situations where the vehicle camera has limited detection capability. These situations include but are not limited to direct or low sunlight, vehicles at night without tail lights, unconventional vehicle types, pedestrians or cyclists with complex backgrounds, running pedestrians or fast moving cyclists, partly obscured pedestrians or cyclists, pedestrians or cyclists that the system cannot distinguish from a group. Failure to take care may result in the loss of control of your vehicle, personal injury or death.

# PRE-COLLISION ASSIST LIMITATIONS

Pre-collision assist depends on the detection ability of its camera and sensors. Any obstructions or damage to these areas can limit detection or prevent the system from functioning. See **Locating the Pre-Collision Assist Sensors** (page 251).

The system is active at 3 mph (5 km/h) and above.

**Note:** Brake support and automatic emergency braking are active up to the maximum speed of the vehicle.

### **Pedestrian Detection Limitations**

Pedestrian detection is active at speeds up to 50 mph (80 km/h).

Pedestrian detection functions optimally when detected hazards are clearly identifiable. System performance may reduce in situations where pedestrians are running, partly obscured, have a complex background, or cannot be distinguished from a group.

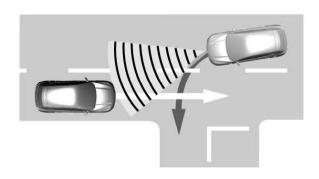
### **Cyclist Detection Limitations**

Cyclist detection is active at speeds up to 50 mph (80 km/h).

Cyclist detection functions optimally when detected hazards are clearly identifiable. The system's detection level may be less in situations where cyclists are moving fast, partly hidden, have a complex background, or the system cannot distinguish the cyclist from a group.

### **Intersection Assist**

The pre-collision assist system may operate in a scenario where you are turning across the path of an oncoming vehicle, or with crossing pedestrians and cyclists. Detection of vehicles driving in an oncoming direction is active if your vehicle is driving at speeds up to 50 mph (80 km/h). Detection of crossing pedestrians and cyclists at an intersection is active if your vehicle is driving at speeds up to 19 mph (30 km/h).



# SWITCHING PRE-COLLISION ASSIST ON AND OFF

You cannot switch the system off.

# Adjusting the Pre-Collision Assist Settings

You can adjust the following settings by using the controls in the pre-collision assist menu:

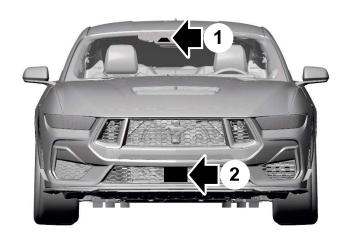
- Change alert and distance alert sensitivity to one of three possible settings.
- Switch distance indication and alert on or off.

- If required, switch automatic emergency braking on or off.
- If required, switch evasive steering assist on or off.

**Note:** Automatic emergency braking and evasive steering assist automatically turn on every time you start your vehicle.

**Note:** If you switch automatic emergency braking off, evasive steering assist switches off.

## LOCATING THE PRE-COLLISION ASSIST SENSORS



- 1. Camera.
- 2. Radar sensor (if equipped).

If a message regarding a blocked sensor or camera appears in the instrument cluster display, something is obstructing the radar signals or camera images. The radar sensor is behind the fascia cover in the center of the lower grille. With a blocked sensor or camera, the system may not function, or performance may reduce. See **Pre-Collision Assist — Information Messages** (page 255).

**Note:** Proper system operation requires a clear view of the road by the camera. Repair any windshield damage in the area of the camera's field of view.

**Note:** If something hits the front end of your vehicle or damage occurs and your vehicle has a radar sensor, the radar sensing zone could change. This could cause missed or false vehicle detections. Have your vehicle serviced to have the radar checked for proper coverage and operation.

**Note:** If your vehicle detects excessive heat at the camera or a potential misalignment condition, a message could display in the information display indicating temporary sensor unavailability. When operational conditions are correct, the message deactivates. For example, when the ambient temperature around the sensor decreases or the sensor recalibrates successfully.

### DISTANCE INDICATION

### WHAT IS DISTANCE INDICATION

Distance indication displays the gap between your vehicle and the vehicle ahead of you.

**Note:** The graphic does not display if you switch on cruise control or adaptive cruise control.

Vehicle Speed	System Sensit- ivity	Distance Indic- ator Color	Distance Gap	Time Gap
62 mph (100 km/h).	Normal.	Blue.	Greater than 82 ft (25 m).	Greater than 0.9 seconds.
		Yellow.	56–82 ft (17–25 m).	0.6-0.9 seconds.
		Red.	Less than 56 ft (17 m).	Less than 0.6 seconds.

# SWITCHING DISTANCE INDICATION ON AND OFF

To switch the system on or off, use the touchscreen:

- 1. Press *Features* on the touchscreen.
- 2. Press **Driver Assistance**.
- 3. Press **Pre-Collision Assist**.
- 4. Switch **Distance Indication** on or off.

## DISTANCE INDICATION INDICATOR

The indicator displays the time gap between your vehicle and vehicles traveling in the same direction ahead of you.







### **DISTANCE ALERT**

### WHAT IS DISTANCE ALERT

The system alerts you with a warning lamp if the distance to the vehicle ahead is small.

**Note:** The warning lamp does not illuminate if cruise control or adaptive cruise control is active.

## ADJUSTING THE SENSITIVITY OF DISTANCE ALERT

To adjust the sensitivity of the system, use the touchscreen:

- Press Features on the touchscreen.
- Press Driver Assistance.
- 3. Press **Pre-Collision Assist**.
- 4. Press **Alert Sensitivity**.
- 5. Select a setting.

# AUTOMATIC EMERGENCY BRAKING

# WHAT IS AUTOMATIC EMERGENCY BRAKING

Automatic emergency braking may activate if the system determines that a collision is imminent. The system may help to reduce impact damage or avoid the crash completely.

Automatic emergency braking is only available up to certain speeds. See **Pre-Collision Assist Limitations** (page 250).

### SWITCHING AUTOMATIC EMERGENCY BRAKING ON AND OFF

To switch the system on or off, use the touchscreen:

- 1. Press **Features** on the touchscreen.
- 2. Press **Driver Assistance**.
- 3. Press **Pre-Collision Assist**.
- 4. Press Auto Emergency Braking.
- 5. Switch the feature on or off.

### **EVASIVE STEERING ASSIST**

# WHAT IS EVASIVE STEERING ASSIST

If your vehicle is rapidly approaching a road user, evasive steering assist helps you steer around the road user.

After you turn the steering wheel in an attempt to avoid a crash with the road user, the system applies additional steering torque to help you steer around the road user. After you pass the road user, the system applies steering torque when you turn the steering wheel to steer back into the lane. The system deactivates after you fully pass the road user.

**Note:** Road users are defined as pedestrians or bicyclists in your vehicle's path or another stationary vehicle in the same lane or a vehicle traveling in the same lane in the same direction as you. See **Pre-Collision Assist Precautions** (page 249).

## EVASIVE STEERING ASSIST LIMITATIONS

Evasive steering assist only activates when all the following occur:

- Automatic emergency braking and evasive steering assist are on.
- The system detects a road user ahead and starts to apply the brakes.
- You significantly turn the steering wheel to steer around a road user.

**Note:** Evasive steering assist does not automatically steer around a road user. If you do not turn the steering wheel, evasive steering assist does not activate.

**Note:** Evasive steering assist does not activate if the distance to the road user ahead is too small and the system cannot avoid a crash.

## SWITCHING EVASIVE STEERING ASSIST ON AND OFF

To switch the system on or off, use the touchscreen:

- 1. Press **Features** on the touchscreen.
- 2 Press **Driver Assistance**.
- 3. Press **Pre-Collision Assist**.
- 4. Switch **Evasive Steering** on or off.

**Note:** If you switch automatic emergency braking off, evasive steering assist turns off.

**Note:** Automatic emergency braking and evasive steering assist turn on every time you start your vehicle.

# PRE-COLLISION ASSIST — TROUBLESHOOTING

PRE-COLLISION ASSIST — WARNING LAMPS



A telltale illuminates in the instrument cluster display to indicate if the system is disabled,

unavailable, or temporarily degraded due to external environmental conditions.

**Note:** No action is needed if the telltale illuminates without a corresponding information message. See **Pre-Collision Assist Precautions** (page 249).

### PRE-COLLISION ASSIST - INFORMATION MESSAGES

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

# PRE-COLLISION ASSIST – FREQUENTLY ASKEDQUESTIONS

## **Camera Troubleshooting**

# The windshield in front of the camera is dirty or obstructed.

Clean the outside of the windshield in front of the camera.

# The windshield in front of the camera is clean, but the message remains in the instrument cluster display.

Wait a short time. It could take several minutes for the camera to detect that there is no obstruction.

## **Radar Troubleshooting**

# The surface of the radar in the grille is dirty or obstructed.

Clean the grille surface in front of the radar or remove the object causing the obstruction.

# The surface of the radar in the grille is clean, but the message remains in the instrument cluster display.

Wait a short time. It could take several minutes for the radar to detect that there is no obstruction.

# Heavy rain, spray or fog is interfering with the radar signals.

The pre-collision assist system is temporarily disabled. Pre-collision assist reactivates a short time after the weather conditions improve.

# Swirling water or snow or ice on the surface of the road is interfering with the radar signals.

The pre-collision assist system is temporarily disabled. Pre-collision assist reactivates a short time after the weather conditions improve.

# Radar is out of alignment due to a front end impact.

Have your vehicle serviced to have the radar checked for proper coverage and operation.

## Speed Sign Recognition (If Equipped)

# WHAT IS SPEED SIGN RECOGNITION

Speed sign recognition detects speed limit signs to inform you of the current speed limit. Detected speed signs appear in the instrument cluster display.

# HOW DOES SPEED SIGN RECOGNITION WORK

Speed sign recognition uses a sensor behind the interior mirror to detect speed signs.

If your vehicle has speed sign recognition with navigation, stored speed sign data may influence the indicated speed limit value.

# SPEED SIGN RECOGNITION PRECAUTIONS

**WARNING:** You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** In cold and severe weather conditions the system may not function. Rain, snow and spray can all limit sensor performance.

**WARNING:** The system may not operate properly if the sensor is blocked. Keep the windshield free from obstruction.

**WARNING:** Do not perform windshield repairs in the area surrounding the sensor.

**WARNING:** The system may not correctly operate if your vehicle is fitted with a suspension kit not approved by Ford.

**WARNING:** Not all traffic signs can be recognized by the system and displayed correctly.

**Note:** Always fit our original parts when replacing headlamp bulbs. Other bulbs may reduce system performance.

# SPEED SIGN RECOGNITION LIMITATIONS

Speed sign recognition may not operate correctly due to:

- Outdated map data.
- Incorrect recognition of speed limits by the sensor of signs on parallel roads or exit ramps.
- Missed recognition of faded, dirty, or distorted signs.

## Speed Sign Recognition (If Equipped)

# SPEED SIGN RECOGNITION INDICATORS



When the system detects a speed limit sign, it appears in the instrument cluster display.

**Note:** Sign indicator image may vary based on your vehicle's display type.

## SETTING THE SPEED SIGN RECOGNITION SPEED WARNING

To set the speed warning, use the touchscreen:

- 1. Press **Features** on the touchscreen.
- 2. Press **Driver Assistance**.
- 3. Press Speed Limit Assist.
- 4. Select to switch the feature on or off.

## SETTING THE SPEED SIGN RECOGNITION SPEED TOLERANCE

To set the tolerance of the speed warning, use the touchscreen.

- 1. Press **Features** on the touchscreen.
- 2. Press **Driver Assistance**.
- 3. Press **Speed Limit Assist**.
- 4. Press **Tolerance**.
- 5. Use the slider bar to select the required level.

### SPEED SIGN RECOGNITION - TROUBLESHOOTING

### SPEED SIGN RECOGNITION — INFORMATION MESSAGES

Message	Details
Traffic Sign Reduced Performance See Manual	The traffic sign data provided by the navigation system is unavailable due to weak or no signal. Wait for a short period of time for the signal to improve. If the message continues to appear, have the system checked as soon as possible.

## Speed Sign Recognition (If Equipped)

# SPEED SIGN RECOGNITION - FREQUENTLY ASKED QUESTIONS

# Why does the speed limit change without any sign on the road?

 The speed limit changes due to the speed limit data stored in the map data.

# Why does speed sign recognition show a wrong speed limit?

 The system shows a wrong speed limit due to incorrect and outdated map data or due to incorrect recognition of the speed limits by the camera.

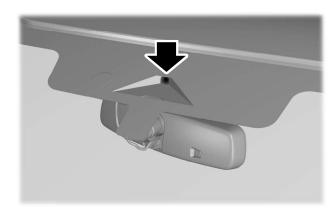
## **Driver Alert**

### WHAT IS DRIVER ALERT

Driver alert alerts you if it determines that you are becoming drowsy or if your driving deteriorates.

# HOW DOES DRIVER ALERT WORK

Driver alert determines your alertness level based on your driving behavior in relation to the lane markings and other factors using the front windshield camera.



### **DRIVER ALERT PRECAUTIONS**

**WARNING:** You are responsible for controlling your vehicle at all times. The system is designed to be an aid and does not relieve you of your responsibility to drive with due care and attention. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Take regular rest breaks if you feel tired. Do not wait for the system to warn you.

**WARNING:** Certain driving styles may result in the system warning you even if you are not feeling tired.

**WARNING:** In cold and severe weather conditions the system may not function. Rain, snow and spray can all limit sensor performance.

**WARNING:** The system will not operate if the sensor cannot track the road lane markings.

**WARNING:** If damage occurs in the immediate area surrounding the sensor, have your vehicle checked as soon as possible.

**WARNING:** The system may not correctly operate if your vehicle is fitted with a suspension kit not approved by us.

**WARNING:** The system may not operate properly if the sensor is blocked. Keep the windshield free from obstruction.

**Note:** If something is blocking the camera or damaged the windshield, Driver Alert may not function.

### **DRIVER ALERT LIMITATIONS**

Driver alert may not function correctly if:

- The sensor cannot track the road lane markings.
- Your vehicle's speed is less than approximately 40 mph (65 km/h).

# SWITCHING DRIVER ALERTON AND OFF

1. Press **Features** on the touchscreen.

## **Driver Alert**

- 2. Press **Driver Assistance**.
- 3. Switch **Driver Alert** on or off.

**Note:** The system remains on or off depending on how it was last set.

### **Resetting Driver Alert**

You can reset the system by either:

- Switching your vehicle off and on.
- Opening and closing the driver door when your vehicle is stationary, and it is safe to do so.

### **DRIVER ALERT INDICATORS**

## **System Warnings**

The warning system has two stages:

- A temporary warning is issued to advise you to take a rest. This message only appears for a short time.
- If you do not rest and the system continues to detect that your driving deteriorates, it issues a further warning. This remains in the instrument cluster display until you cancel it.

**Note:** The system does not warn you if the vehicle speed falls below approximately 40 mph (65 km/h).

### **DRIVER ALERT – TROUBLESHOOTING**

### **DRIVER ALERT - INFORMATION MESSAGES**

Message	Action
Driver Alert Warning Rest Now	Stop and rest as soon as it is safe to do so.
Driver Alert Warning Rest Suggested	Take a rest soon.

# LOAD CARRYING PRECAUTIONS

Keep your loaded vehicle weight within its design rating capability, with or without a trailer. Properly loading your vehicle provides maximum return of vehicle design performance. Before you load your vehicle, become familiar with the following terms for determining your vehicle's weight rating, with or without a trailer, from the vehicle's Tire and Loading Information label or Safety Compliance Certification label.

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.

WARNING: Exceeding the Safety Compliance Certification label vehicle weight limits can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

warning: Do not use replacement tires with lower load carrying capacities than the original tires because they may lower your vehicle's GVWR and GAWR limitations. Replacement tires with a higher limit than the original tires do not increase the GVWR and GAWR limitations.

**WARNING:** Do not exceed the GVWR or the GAWR specified on the certification label.

warning: Exceeding any vehicle weight rating can adversely affect the performance and handling of your vehicle, cause vehicle damage and can result in the loss of control of your vehicle, serious personal injury or death.

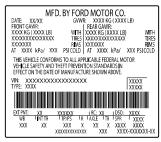
warning: When loading the roof racks, we recommend you evenly distribute the load, as well as maintain a low center of gravity. Loaded vehicles, with higher centers of gravity, may

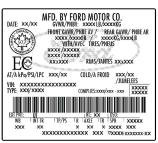
handle differently than unloaded vehicles. Take extra precautions, such as slower speeds and increased stopping distance, when driving a heavily loaded vehicle.

The gross combined weight must never exceed the Gross Combined Weight Rating.

# LOCATING THE SAFETY COMPLIANCE CERTIFICATION LABELS

# Safety Compliance Certification Label Example:





The Safety Compliance Certification label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

# WHAT IS THE GROSS AXLE WEIGHT RATING

# GAWR (Gross Axle Weight Rating)

GAWR is the maximum allowable weight that a single axle (front or rear) can carry. These numbers are on the Safety Compliance Certification label.

# WHAT IS THE GROSS VEHICLE WEIGHT RATING

GVWR is the maximum allowable weight of the fully loaded vehicle. This includes all options, equipment, passengers and cargo. It appears on the Safety Compliance Certification label.

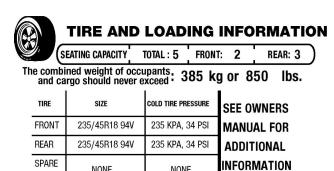
# WHAT IS THE GROSS COMBINED WEIGHT RATING

Gross Combined Weight Rating (GCWR) is the maximum allowable weight of the vehicle and the loaded trailer, including all cargo and passengers, that the vehicle can handle without risking damage. (Important: The towing vehicle's braking system is rated for operation at Gross Vehicle Weight Rating, not at Gross Combined Weight Rating.)

**Note:** Your vehicle is not designed for trailer towing. Never tow a trailer with your vehicle.

### **CALCULATING PAYLOAD**

### Tire and Loading Label Information **Example:**



NONE

TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT SEATING CAPACITY NOMBRE DE PLACES TOTAL The combined weight of occupants and cargo should never exceed kg or 396 875 Le poids total des occupants et du chargement ne doit jamais dépasser kg ou

**SEE OWNER'S** 

MANUAL FOR

ADDITIONAL INFORMATION

VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS

TIRE PNEU	SIZE Dimensions	COLD TIRE PRESSURE PRESSION DES PNEUS À FROID
FRONT AVANT	235/40R19 96V	255 KPA, 37 PSI
rear Arrière	235/40R19 96V	255 KPA, 37 PSI
SPARE DE SECOURS	T125/80R16 97M	415 KPA, 60 PSI

NONE

Payload is the combined weight of cargo and passengers that your vehicle is carrying. The maximum payload for your vehicle appears on the Tire and Loading label. The label is either on the B-pillar or the edge of the driver door. Vehicles exported outside the US and Canada may not have a tire and loading label. Look for "The combined weight of occupants and cargo should never exceed XXX kg OR XXX lb" for maximum payload. The payload listed on the Tire and Loading Information label

is the maximum payload for your vehicle as built by the assembly plant. If you install any additional equipment on your vehicle, you must determine the new payload. Subtract the weight of the equipment from the payload listed on the Tire and Loading label.

**Note:** Your vehicle is not designed for trailer towing. Never tow a trailer with your vehicle.

## CALCULATING THE LOAD LIMIT

Steps for determining the correct load limit:

- Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb." on your vehicle's placard.
- Determine the combined weight of the driver and passengers that will be riding in your vehicle.
- 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 vour vehicle, the amount of available cargo and luggage load capacity is 650 lb.  $(1400-750 (5 \times 150) = 650 lb.)$

- 5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
- 6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

# Helpful examples for calculating the available amount of cargo and luggage load capacity

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You decide to go golfing. Is there enough load capacity to carry you, four of your friends and all the golf bags? You and four friends average 220 pounds (99 kilograms) each and the golf bags weigh approximately 30 pounds (13.5 kilograms) each. The calculation would be: 1400 - $(5 \times 220) - (5 \times 30) = 1400 - 1100$  150 = 150 pounds. Yes, you have enough load capacity in your vehicle to transport four friends and your golf bags. In metric units, the calculation would be: 635 kilograms - (5 x 99 kilograms) -(5 x 13.5 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 kilograms - (2 x 99 kilograms) - (12 x 45 kilograms) = 635 - 198 - 540 = -103 kilograms. You will need to reduce the load weight by at least 240 pounds (104 kilograms). If you remove three 100-pound (45-kilogram) cement bags, then the load calculation would be: 1400 - (2 x 220) - (9 x 100) = 1400 - 440 -900 = 60 pounds. Now you have the load capacity to transport the cement and your friend home. In metric units, the calculation would be: 635 kilograms - (2 x 99 kilograms) – (9 x 45 kilograms) = 635 - 198 - 405 = 32 kilograms.

The above calculations also assume that the loads are positioned in your vehicle in a manner that does not overload the front or the rear gross axle weight rating specified for your vehicle on the Safety Compliance Certification label.

# LUGGAGE COMPARTMENT PRECAUTIONS

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

**WARNING:** People should never climb inside the luggage compartment. Never shut the luggage compartment when a person is inside.

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.

**WARNING:** Do not load any objects on the shelf that may obstruct your vision or strike occupants of the vehicle in the case of a sudden stop or collision.

# OPENING THE REAR LUGGAGE COMPARTMENT

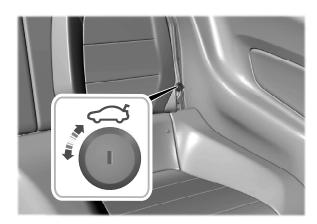
# OPENING THE REAR LUGGAGE COMPARTMENT FROM INSIDE YOUR VEHICLE - CONVERTIBLE

## Using the Instrument Panel Button



Press the button on the instrument panel to open the luggage compartment.

# Unlocking the Rear Luggage Compartment



If the decklid does not open because of a discharged battery, pull the rear left-hand side seatback cushion aside, insert the mechanical key blade into the key slot and turn the key to release the decklid latch.

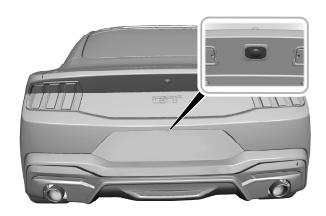
# OPENING THE REAR LUGGAGE COMPARTMENT FROM INSIDE YOUR VEHICLE - COUPE



Press the button on the instrument panel to open the luggage compartment.

### OPENING THE REAR LUGGAGE COMPARTMENT FROM OUTSIDE YOUR VEHICLE

**Note:** Be careful when opening the luggage comprtment in a garage or other enclosed area to avoid damaging the decklid.



Press the exterior release button hidden above the license plate. You need to have your vehicle unlocked or have an intelligent access key within 3.3 ft (1 m) of the luggage compartment.

### OPENING THE REAR LUGGAGE COMPARTMENT USING THE REMOTE CONTROL



Press the button twice within three seconds.

**Note:** Be careful when opening the luggage compartment in a garage or other enclosed area to avoid damaging the decklid.

# CLOSING THE REAR LUGGAGE COMPARTMENT

### CLOSING THE REAR LUGGAGE COMPARTMENT FROM OUTSIDE YOUR VEHICLE

Lower the decklid and apply light pressure as it drops to manually close the luggage compartment.

**Note:** Before driving off, check the instrument cluster for a trunk ajar message or warning indicator. Failure to do so could result in unintentionally leaving the luggage compartment open while driving. An unlatched decklid may block your rear view.

## USING THE REAR LUGGAGE COMPARTMENTEMERGENCY RELEASE

Your vehicle is equipped with a release handle that provides a means of escape if you become locked inside the luggage compartment. The handle is located inside the luggage compartment on the decklid. The material around the handle glows after a brief exposure to ambient light.

Pull the handle and push up on the decklid to open from within the luggage compartment.

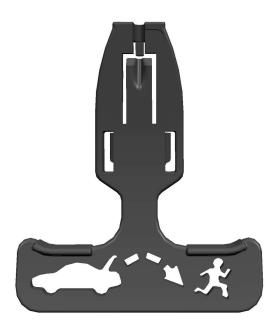
# LUGGAGE COMPARTMENT — TROUBLESHOOTING

# LUGGAGE COMPARTMENT – WARNING LAMPS



Illuminates when the the ignition is on and the luggage compartment is not completely

closed.



### **LUGGAGE COMPARTMENT - INFORMATION MESSAGES**

Message	Action
Trunk Ajar	Displays to remind you that the luggage compartment is not completely closed.

## **Towing a Trailer**

# TOWING A TRAILER PRECAUTIONS - BASE/GT

**WARNING:** Do not exceed the GVWR or the GAWR specified on the certification label.

warning: Towing trailers beyond the maximum recommended gross trailer weight exceeds the limit of your vehicle and could result in engine damage, transmission damage, structural damage, loss of vehicle control, vehicle rollover and personal injury.

# TOWING A TRAILER PRECAUTIONS-DARK HORSE

**WARNING:** Your vehicle is not approved for trailer towing. Never tow a trailer with your vehicle.

### LOADING YOUR TRAILER

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. The trailer tongue weight should never exceed 10% of the maximum towing capacity.
- Select a ball mount 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.

## **Towing a Trailer**

## **TOWING WEIGHTS AND DIMENSIONS**

## **RECOMMENDED TOWING WEIGHTS**

Market	Website
United States of America	https://www.fleet.ford.com/ towing-guides/
Canada	https://www.fleet.ford.ca/towing- guides/

## Convertible Top (If Equipped)

# OPENING THE CONVERTIBLE TOP

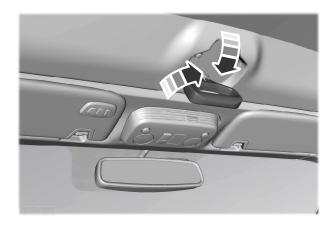
When you use the top, you must first unlatch it from the windshield and then use the convertible top control.

**Note:** The convertible top does not operate unless the vehicle is stationary or traveling under 3 mph (5 km/h). A chime sounds and a warning message appears in the instrument panel. When you slow down, the top operates.

**Note:** When you latch or unlatch the convertible top, the audio system mutes briefly. This allows the vehicle to optimize the cabin's sound quality depending on the position of the convertible top.

To unlatch the convertible top:

- Bring the vehicle to a complete stop. The ignition must be on. We recommend that the vehicle remains running when you open the top to prevent draining the battery.
- Check the convertible top stowage compartment behind the rear seat to be sure it is empty. Make sure the convertible top outer surface is free of debris.
- 3. Move the latch handle, above the interior mirror, down toward the windshield and rotate the handle clockwise to release the convertible top.



The windows open automatically when you press the convertible top control.

To open the convertible top:

- 1. Press and hold the convertible top control on the overhead console, until the windows are completely down and the top stores completely.
- 2. Release the convertible top control.



**Note:** Do not store articles behind the rear seat. Articles in the convertible top stowage compartment may break the rear glass window when you open the top.

**Note:** Opening the convertible top when the top material is wet may cause mold or mildew.

## Convertible Top (If Equipped)

# CLOSING THE CONVERTIBLE TOP

## **Closing the Convertible Top**

 Bring your vehicle to a complete stop and make sure to leave the ignition on.
 We recommend that your vehicle remains running when you open the top to prevent draining the battery.

**Note:** The convertible top does not operate unless your vehicle is stationary or traveling under 3 mph (5 km/h). A tone sounds and a warning message appears in the instrument panel. When you slow down, the top operates.



- 2. Press and hold the convertible top control. When the convertible latch handle is within reach, make sure it is down and that you rotate it clockwise so the latch is in the fully opened position. Continue pressing the convertible top control until the windows completely lower, and the top unfolds and moves forward toward the windshield header.
- 3. When the top lines up evenly with the windshield header, release the convertible top control.

## **Latching the Convertible Top**



- 1. Pull down on the latch handle and rotate it counter-clockwise to secure the convertible top.
- 2. After securing the convertible top fully, push the latch handle up into the stowed position to secure the latch.

**Note:** When you latch or unlatch the convertible top, the audio system briefly mutes. This allows the vehicle to optimize the cabin's sound quality depending on the position of the convertible top.

**Note:** If you keep the top open for an extended period of time or if the temperature is low, the top material may shrink slightly. If this happens, pull on the latch handle to secure the top.

## **Driving Hints**

# COLD WEATHER PRECAUTIONS

The functional operation of some components and systems can be affected at temperatures below approximately -13°F (-25°C).

### **DRIVING ON SNOW AND ICE**

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

On ice and snow, you should drive more slowly than usual. Your vehicle has a four wheel anti-lock brake system, do not pump the brake pedal. See **Anti-Lock Braking System Limitations** (page 181).

### **BREAKING-IN**

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

### DRIVING ECONOMICALLY

The following helps to improve fuel consumption:

- Drive smoothly, accelerate gently and anticipate the road ahead to avoid heavy braking.
- Regularly check your tire pressures and make sure that they are inflated to the correct pressure.
- Follow the recommended maintenance schedule and carry out the recommended checks.
- Plan your journey and check the traffic before you set off. It is more efficient to combine errands into a single trip whenever possible.
- Avoid idling the engine in cold weather or for extended periods. Start the engine only when you are ready to set off.
- Do not carry unnecessary weight in your vehicle as extra weight wastes fuel.
- Do not add unnecessary accessories to the exterior of your vehicle, for example running boards. If you use a roof rack, remember to fold it down or remove it when not in use.
- Do not shift into neutral when you are braking or when your vehicle is slowing down.
- Shut all windows when driving at high speeds.
- Switch off all electric systems when not in use, for example air conditioning. Make sure that you unplug any accessories from the auxiliary power points when not in use.

## **Driving Hints**

# DRIVING THROUGH SHALLOW WATER - BASE/GT

**WARNING:** Do not attempt to cross a deep or flowing body of water. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**Note:** Driving through standing water can cause vehicle damage.

**Note:** Engine damage can occur if water enters the air filter.

Before driving through standing water, check the depth. Never drive through water that is higher than the bottom of the front rocker area of your vehicle.



When driving through standing water, drive very slowly and do not stop your vehicle. Your brake performance and traction could 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.
- Turn the steering wheel to check that the steering power assist works.

Check the function of the following:

- Horn
- Exterior lights

# DRIVING THROUGH SHALLOW WATER - DARK HORSE

**WARNING:** Do not attempt to cross a deep or flowing body of water. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**Note:** Driving through standing water can cause vehicle damage.

**Note:** Engine damage can occur if water enters the air filter.

Your vehicle has aerodynamic devices attached to the underbody designed to help control airflow for superior performance. Therefore, the driver must be especially careful to avoid driving through deep or standing water. If driving through deep or standing water is unavoidable, do not exceed 10 mph (16 km/h).

Never drive through water that is higher than the bottom of the wheel rims. Water may enter through the air intake due to the vacuum generated in the engine. Your vehicle warranty does not cover damage caused by the intake of water into the engine.

Before driving through standing water, check the depth.

When driving through standing water, drive very slowly and do not stop your vehicle. Your brake performance and traction could 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.
- Turn the steering wheel to check that the steering power assist works.

Check the function of the following:

## **Driving Hints**

- Horn
- Exterior lights

### **FLOOR MATS**

**WARNING:** Use a floor mat designed to fit the footwell of your vehicle that does not obstruct the pedal area. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Pedals that cannot move freely can cause loss of vehicle control and increase the risk of serious personal injury.

**WARNING:** Secure the floor mat to both retention devices so that it cannot slip out of position and interfere with the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Do not place additional floor mats or any other covering on top of the original floor mats. This could result in the floor mat interfering with the operation of the pedals. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

**WARNING:** Always make sure that objects cannot fall into the driver foot well while your vehicle is moving. Objects that are loose can become trapped under the pedals causing a loss of vehicle control.



To install floor mats that have eyelets, position the floor mat eyelet over the retention post and press down to lock in position. Repeat for all eyelets on the floor mat.

To remove the floor mats, reverse the installation procedure.

**Note:** Regularly check the floor mats to make sure they are secure.

### **ROADSIDE ASSISTANCE**

## Vehicles Sold in the United States: Getting Roadside Assistance

If you have a vehicle concern, Ford Motor Company offers a complimentary roadside assistance program. This program is separate from the New Vehicle Limited Warranty.

The service is available:

- 24 hours a day, seven days a week.
- For the coverage period supplied with your vehicle.

Knowing your vehicle's VIN, mileage and your specific location allows help to get to you faster.

Roadside Assistance covers:

- A flat tire change with a good spare (except vehicles supplied with a tire inflation kit).
- Battery jump start.
- Lock-out assistance (key replacement cost is the customer's responsibility).
- Fuel delivery independent service contractors, if not prohibited by state, local or municipal law, shall deliver up to 2 gal (8 L) of gasoline or 5 gal (20 L) of diesel fuel to a disabled vehicle. Roadside assistance limits fuel delivery service to two no-charge occurrences within a 12-month period.
- Winch out available within 100 ft (30 m) of a paved or county maintained road, no recoveries.

- Towing independent service contractors, if not prohibited by state, local or municipal law, shall tow Ford eligible vehicles to an authorized dealer within 50 mi (80 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 50 mi (80 km) from the disablement location, the member shall be responsible for any mileage costs in excess of 50 mi (80 km). Warranty towing, non-warranty towing and collision towing are available.
- 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

United States vehicle customers who require Roadside Assistance, call 1-800-241-3673.

If you need to arrange roadside assistance on your own, Ford Motor Company reimburses a reasonable amount for towing to the nearest dealership within 50 mi (80 km). To obtain reimbursement information, United States vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

## Vehicles Sold in Canada: Getting Roadside Assistance

If you have a vehicle concern, Ford Motor Company of Canada, Limited offers a complimentary roadside assistance program. This program is eligible within Canada or the continental United States.

The service is available 24 hours a day, seven days a week.

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle. Canadian roadside coverage and benefits may differ from the U.S. coverage. For complete details, see your Warranty Guide at www.ford.com/support/warranty/.

Download the Sykes4Ford Roadside Assistance App for access to your roadside assistance services. For more information, scan here:



If you require more information, please call us in Canada at 1-800-665-2006, or visit our website at www.ford.ca.

Ford Motor Company reserves the right to modify or discontinue Roadside Assistance at any time. Certain restrictions apply to Roadside Assistance benefits.

For further details, call **1-800-241-3673** (United States) **1-800-665-2006** (Canada)

## SWITCHING THE HAZARD **FLASHERS ON AND OFF**



The hazard flasher button is on the instrument panel. Press the button to switch the hazard

flashers on if your vehicle is creating a safety hazard for other road users.

When you switch the hazard flashers on, all front and rear direction indicators flash.

**Note:** The hazard flashers operate when the ignition is in any position, or if the key is not in the ignition. The battery loses charge and could have insufficient power to restart your vehicle.

Press the button again to switch them off.

### **JUMPSTARTING THE VEHICLE**

### JUMP STARTING PRECAUTIONS

**WARNING:** Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.

**WARNING:** Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin. eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

**WARNING:** Use only adequately sized cables with insulated clamps.

**WARNING:** Make sure that the cables are clear of any moving parts and fuel delivery system parts.

**WARNING:** Connect batteries with only the same nominal voltage.

**WARNING:** If the engine is running while the hood is open, stay clear of moving engine components. Failure to follow this warning could result in serious personal injury or death.

Do not attempt to push-start an automatic transmission vehicle. This could cause transmission damage.

Do not disconnect the battery of the disabled vehicle. This could damage your vehicle's electrical system.

### PREPARING THE VEHICLE

Use only a 12 volt supply to start your vehicle.

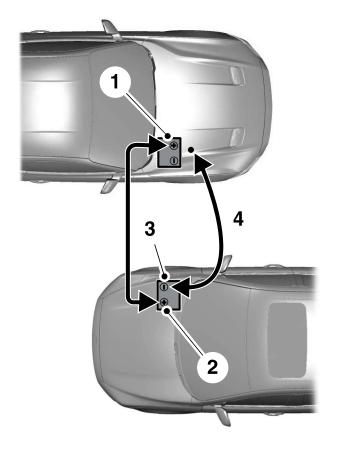
Park the booster vehicle close to the hood of the disabled vehicle, making sure the two vehicles do not touch.

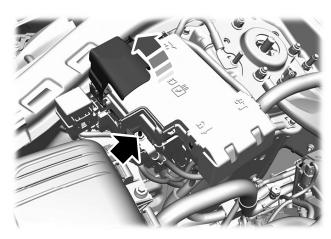
# JUMP STARTING THE VEHICLE Connecting the Jumper Cables

**WARNING:** Do not connect the negative jumper cable to any other part of your vehicle. Use the ground point.

**Note:** If you are using a jump pack or booster box, follow the manufacturer's instructions.

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

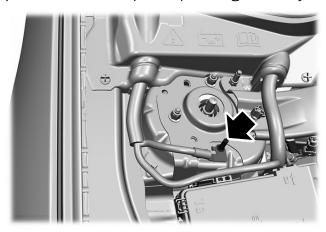




- 1. Lift the red cap. Connect the positive (+) jumper cable to the positive (+) terminal of the discharged battery.
- 2. Connect the other end of the positive (+) jumper cable to the positive (+) terminal of the booster vehicle battery.

- 3. Connect the negative (-) jumper cable to the negative (-) terminal of the booster vehicle battery.
- 4. Make the final connection of the negative (-) jumper cable to the jump start stud, as shown in the following illustration.

**Note:** Do not use the hood latch as a negative (-) connection point. This could cause springs in the latch to burn and prevent the hood from operating correctly.



## Starting the Engine

- Start the engine of the booster vehicle and moderately rev the engine, or gently press the accelerator to keep the engine speed between 2000 RPM and 3000 RPM, 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.

**Note:** Do not switch the headlamps on when disconnecting the cables. The peak voltage could blow the bulbs.

### **POST-CRASH ALERT SYSTEM**

## WHAT IS THE POST-CRASH ALERT SYSTEM

The system helps draw attention to your vehicle in the event of a serious impact.

## HOW DOES THE POST-CRASH ALERT SYSTEM WORK

The system is designed to turn the hazard flashers on, turn the courtesy lamps on, intermittently sound the horn and unlock all doors in the event of a serious impact that deploys an airbag or the seatbelt pretensioners.

# POST-CRASH ALERT SYSTEM LIMITATIONS

Depending on applicable laws in the country your vehicle was built for, the horn does not sound in the event of a serious impact.

# SWITCHING THE POST-CRASH ALERT SYSTEM OFF

Press the hazard flasher switch, the unlock button on the remote control, the panic button on the remote control or cycle the ignition to switch the system off.

**Note:** The alert turns off when the vehicle battery runs out of charge.

### POST-COLLISION BRAKING

## How Does Post-Collision Braking Work

In the event of a moderate to severe crash, the braking system reduces the vehicle's speed to prevent or reduce the impact of a potential secondary crash.

### **Post-Collision Braking Limitations**

Post-collision braking does not activate if any of the following occur:

- The anti-lock braking system is damaged during the collision.
- Electronic stability control is disabled.

## **Overriding Post-Collision Braking**

You can override post-collision braking by pressing the brake or accelerator pedal.

### **Post-Collision Braking Indicators**



It flashes when a post-collision braking event is occurring.

## **AUTOMATIC CRASH SHUTOFF**

# WHAT IS AUTOMATIC CRASH SHUTOFF

The automatic crash shutoff is designed to stop the fuel going to the engine in the event of a moderate or severe crash.

**Note:** Not every impact causes a shutoff.

# AUTOMATIC CRASH SHUTOFF PRECAUTIONS

**WARNING:** If your vehicle has been involved in a crash, have the fuel system checked. Failure to follow this instruction could result in fire, personal injury or death.

### **RE-ENABLING YOUR VEHICLE**

- 1. Switch the ignition off.
- 2. Attempt to start your vehicle.
- 3. Switch the ignition off.

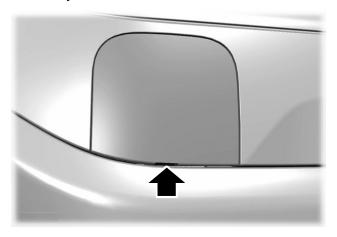
4. Attempt to start your vehicle.

**Note:** If your vehicle does not start after the third attempt, have your vehicle checked as soon as possible.

### **RECOVERY TOWING**

### ACCESSING THE FRONT TOWING POINT - VEHICLES WITH: ECOBOOST™ PERFORMANCE PACKAGE/GT PERFORMANCE PACKAGE

There is an installation point for the recovery hook behind the fascia.



- 1. Insert a suitable tool into the hole on the underside of the cover.
- 2. Carefully pry off the cover.

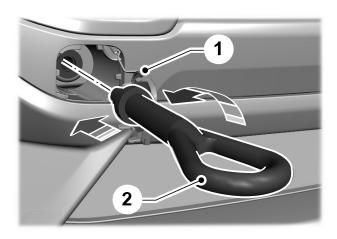
### LOCATING THE TOWING EYE

If your vehicle is equipped with a screw-in recovery hook, it is with the spare tire kit.

### **INSTALLING THE TOWING EYE**

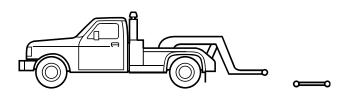
Insert the recovery hook into the installation point and turn it counterclockwise. Make sure that you fully tighten the recovery hook.

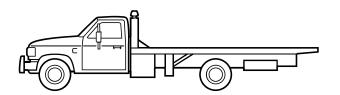
### **Crash and Breakdown Information**

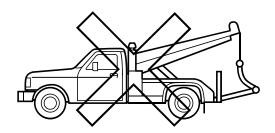


**Note:** The screw-in recovery hook has a left-hand thread.

### **TRANSPORTING THE VEHICLE**







If you need to tow your vehicle, contact a professional towing service or your roadside assistance service provider.

Your manufacturer 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.

We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Vehicle damage could occur if towed incorrectly, or by any other means.

Front-wheel and rear-wheel drive vehicles must have their designated drive wheels off the ground regardless of towing direction. Use tow dollies to prevent damage to the transmission.

All-wheel or four-wheel drive vehicles require that all wheels be off the ground using a wheel lift and dollies or flatbed equipment. This prevents damage to the transmission and drive system.

**Note:** You need to switch on the ignition to unlock the steering.

**Note:** Make sure you check the steering column before towing. It could lock if the battery is dead.

### **FAIL-SAFE COOLING**

#### WHAT IS FAIL-SAFE COOLING

Fail-safe cooling allows you to temporarily drive your vehicle before any incremental component damage occurs due to overheating.

The fail-safe distance depends on outside temperature, vehicle load and terrain.

### **Crash and Breakdown Information**

## HOW DOES FAIL-SAFE COOLING WORK

If the engine reaches a preset over-temperature condition, the engine automatically switches to alternating cylinder operation. Each disabled cylinder acts as an air pump and cools the engine.

When this occurs, your vehicle still operates, however:

- Engine power is limited.
- The air conditioning system turns off.

Continued operation increases the engine temperature, causing the engine to completely shut down. Your steering and braking effort increases in this situation.

When the engine temperature cools, you can re-start the engine.

**Note:** Have your vehicle checked as soon as possible to minimize engine damage.

## DRIVING WHEN FAIL-SAFE MODE IS ACTIVATED

warning: Fail-safe mode is for use during emergencies only. Operate your vehicle in fail-safe mode only as long as necessary to bring your vehicle to rest in a safe location and seek immediate repairs. When in fail-safe mode, your vehicle will have limited power, will not be able to maintain high-speed operation, and may completely shut down without warning, potentially losing engine power, power steering assist, and power brake assist, which may increase the possibility of a crash resulting in serious injury.

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

Continued operation increases the engine temperature, causing the engine to completely shut down. Your steering and braking effort increases in this situation.

When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

Your vehicle has limited engine power when in the fail-safe mode, drive your vehicle with caution. Your vehicle does not maintain high-speed operation and the engine may operate poorly.

Remember that the engine is capable of automatically shutting down to prevent engine damage. In this situation:

- Pull off the road as soon as safely possible and switch the engine off.
- If you are a member of a roadside assistance program, we recommend that you contact your roadside assistance service provider.
- 3. If this is not possible, wait for a short period of time for the engine to cool.
- 4. Check the coolant level. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
- 5. When the engine temperature cools, you can re-start the engine. Have your vehicle checked as soon as possible to minimize engine damage.

**Note:** Driving your vehicle without repair increases the chance of engine damage.

### **Crash and Breakdown Information**

### **FAIL-SAFE COOLING INDICATORS**



If the engine begins to overheat, the coolant temperature gauge moves toward the red zone.



A warning lamp illuminates and a message may appear in the instrument cluster display.

### **Towing Your Vehicle**

# TOWING YOUR VEHICLE PRECAUTIONS

Use the following guidelines when towing your vehicle. Failure to follow this instruction could result in vehicle damage not covered by the vehicle warranty.

**Note:** *Make sure you properly secure your vehicle to the tow vehicle.* 

**Note:** If you are unsure of the vehicle's configuration, contact an authorized dealer.

# RECREATIONALLY TOWING YOUR VEHICLE

You cannot recreational tow your vehicle with all wheels on the ground because vehicle or transmission damage could occur. You must recreational tow your vehicle with all four wheels off the ground, such as when using a car-hauling trailer. Otherwise, you cannot recreational tow your vehicle.

### **EMERGENCY TOWING**

If your vehicle becomes inoperable without access to wheel dollies or a vehicle transport trailer, it can be flat-towed with all wheels on the ground, regardless of the powertrain and transmission configuration, under the following conditions:

- Your vehicle is facing forward for towing in a forward direction.
- Place the transmission in neutral (N).
   If you cannot move the transmission into neutral (N), you may need to override it. See Automatic

   Transmission (page 175).
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

### **FUSE PRECAUTIONS**

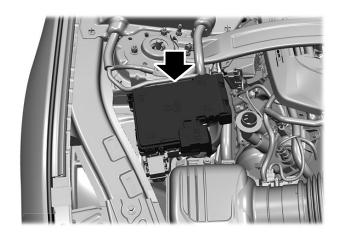
**WARNING:** Always disconnect the battery before servicing high current fuses.

**WARNING:** To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.

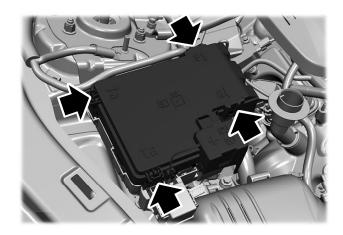
**WARNING:** Always replace a fuse with one that has the specified amperage rating. Using a fuse with a higher amperage rating can cause severe wire damage and could start a fire.

#### **UNDER HOOD FUSE BOX**

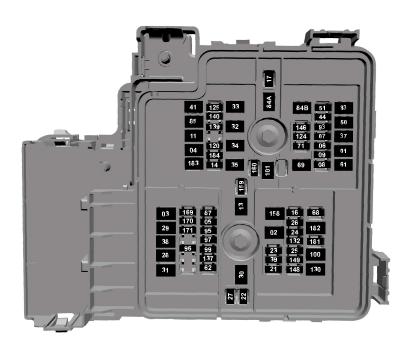
## LOCATING THE UNDER HOOD FUSE BOX



## ACCESSING THE UNDER HOOD FUSE BOX



### **IDENTIFYING THE FUSES IN THE UNDER HOOD FUSE BOX**



Item	Rating	Protected Component
1	40 A	Body control module 1.
2	30 A	Not used (spare).
3	30 A	Body control module 2.
4	40 A	Fuel pump.
5	5 A	Not used (spare).
6	15 A	Vehicle power 1.
7	30 A	Vehicle power 2.
8	15 A	Vehicle power 3.
9	20 A	Vehicle power 4.
11	30 A	Starter motor.
13	40 A	Blower motor.
14	5 A	Not used (spare).
16	10 A	Decklid release.

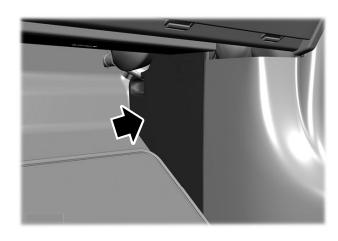
Item	Rating	Protected Component
17	5 A	Not used (spare).
21	10 A	Not used (spare).
22	5 A	Not used (spare).
23	10 A	Automatic brake system module.
24	10 A	Powertrain control module. Electronic power assist steering.
25	10 A	Not used (spare).
26	10 A	Not used (spare).
27	5 A	Not used (spare).
28	40 A	Automatic brake system valve.
29	60 A	Automatic brake system pump.
30	40 A	Driver power seat. Driver seat module.
31	30 A	Passenger power seat.
32	20 A	Power point 1.
33	20 A	Power point 2.
34	20 A	Not used (spare).
35	30 A	Not used (spare).
37	20 A	Convertible top motor - left- hand side.
38	30 A	Climate controlled seat.
39	20 A	Not used (spare).
41	20 A	Convertible top motor - right-hand side.
44	10 A	Not used (spare).
50	40 A	Heated rear window.

Item	Rating	Protected Component
51	10 A	Heated exterior mirror.
61	30 A	Not used (spare).
62	10 A	Not used (spare).
68	20 A	Electronic steering column lock.
69	30 A	Wiper motor.
71	20 A	Not used (spare).
83	15 A	Not used (spare).
84A	60 A	Not used (spare).
84B	30 A	Not used (spare).
85	40 A	Not used (spare).
87	15 A	Not used (spare).
93	10 A	Not used (spare).
95	10 A	Not used (spare).
96	10 A	Not used (spare).
97	20 A	Not used (spare).
99	10 A	Not used (spare).
100	15 A	Left-hand headlamps.
101	15 A	Right-hand headlamps.
120	15 A	Fuel injectors.
124	5 A	Rain sensor.
125	5 A	Not used (spare).
130	20 A	Differential pump.
132	15 A	Not used (spare).
137	10 A	Advanced driver assistance module.
139	5 A	USB charge port 2.
140	5 A	Not used (spare).

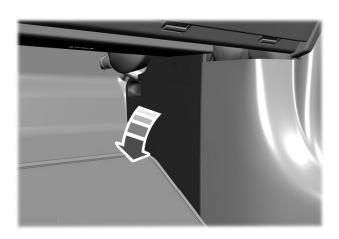
Item	Rating	Protected Component
146	5 A	Not used (spare).
148	5 A	Left-hand tail lamp.
149	5 A	Right-hand tail lamp.
158	20 A	Transmission fluid pump.
159	5 A	Not used (spare).
160	10 A	On-board diagnostic connector. Gateway module.
169	10 A	Not used (spare).
170	10 A	Not used (spare).
171	10 A	Not used (spare).
181	5 A	Headlamp control module.
182	30 A	Body control module.
183	30 A	Not used (spare).
184	7.5 A	Wireless accessory charging module.

# BODY CONTROL MODULE FUSE BOX

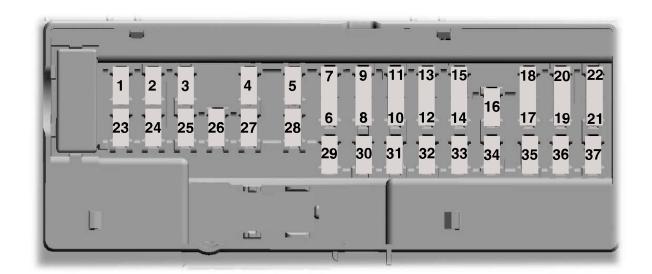
## LOCATING THE BODY CONTROL MODULE FUSE BOX



## ACCESSING THE BODY CONTROL MODULE FUSE BOX



### IDENTIFYING THE FUSES IN THE BODY CONTROL MODULE FUSE BOX



Item	Rating	Protected Component
1	_	Not used.
2	10 A	Power windows.
3	7.5 A	Not used (spare).
4	20 A	Amplifier.
5	_	Not used.
6	10 A	Not used (spare).
7	10 A	Auxiliary body module.
8	5 A	Telematics control unit module.
9	5 A	Intrusion sensor module. Performance electric parking brake.
10	_	Not used.
11	_	Not used.
12	7.5 A	Climate control module.
13	7.5 A	Steering column control module. Instrument cluster display.
14	15 A	Not used.
15	15 A	SYNC.
16	_	Not used (spare).
17	7.5 A	Not used (spare).
18	7.5 A	Not used (spare).
19	5 A	Headlamp switch.
20	5 A	Push button ignition switch.
21	5 A	Not used.
22	5 A	Vehicle dynamics module.
23	30 A	Driver door module. Driver door window.

Item	Rating	Protected Component
24	30 A	Vehicle dynamics module.
25	20 A	Amplifier.
26	30 A	Passenger door module. Passenger door window.
27	30 A	Left-hand rear window power (convertible).
28	30 A	Right-hand rear window power (convertible).
29	15 A	Instrument cluster module.
30	5 A	Not used (spare).
31	10 A	SYNC display screen. Integrated control panel. Gateway module. Remote keyless entry.
32	20 A	Audio unit.
33	_	Not used.
34	30 A	Run/start relay.
35	5 A	Auxiliary body module.
36	15 A	Not used (spare).
37	20 A	Auto-dimming interior mirror. Heated steering wheel.

### **HIGH CURRENT FUSE BOX**

## LOCATING THE HIGH CURRENT FUSE BOX

To locate the fuses in the high current fuse box, contact an authorized dealer.

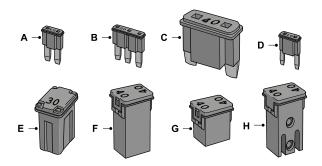
## ACCESSING THE HIGH CURRENT FUSE BOX

To access the fuses in the high current fuse box, contact an authorized dealer.

## IDENTIFYING THE FUSES IN THE HIGH CURRENT FUSE BOX

To identify the fuses in the high current fuse box, contact an authorized dealer.

### **IDENTIFYING FUSE TYPES**



- A Micro 2.
- B Micro 3.
- C Maxi.
- D Mini.
- E M Case.
- F J Case.
- G J Case Low Profile.
- H Slotted M Case.

### **FUSES - TROUBLESHOOTING**

## FUSES — FREQUENTLY ASKED QUESTIONS

### When do I need to check a fuse?

 If electrical components in the vehicle are not working.

### When do I need to replace a fuse?

If a fuse has blown.

### How do I identify a blown fuse?

 You can identify a blown fuse by a broken wire within the fuse.

### **MAINTENANCE PRECAUTIONS**

Service your vehicle 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. See **Capacities and Specifications** (page 363).

- 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.
- Set the parking brake, shift the transmission to park (P) and block the wheels.

# OPENING AND CLOSING THE HOOD

### **Opening the Hood**



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



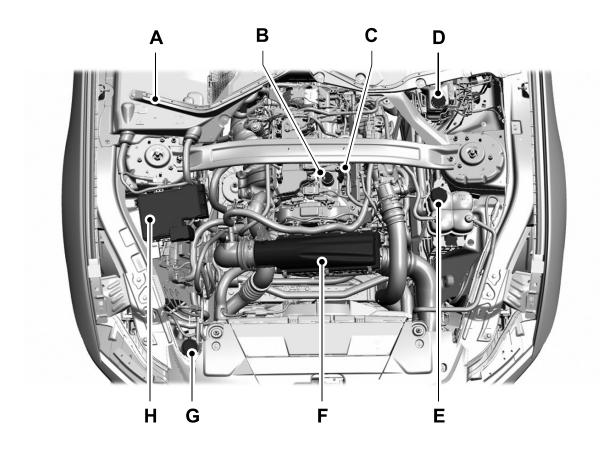
- 3. Release the hood latch by pushing the secondary release lever to your left-hand side.
- 4. Open the hood. The hood struts automatically support the hood.

### **Closing the Hood**

Lower the hood and make sure it fully latches.

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

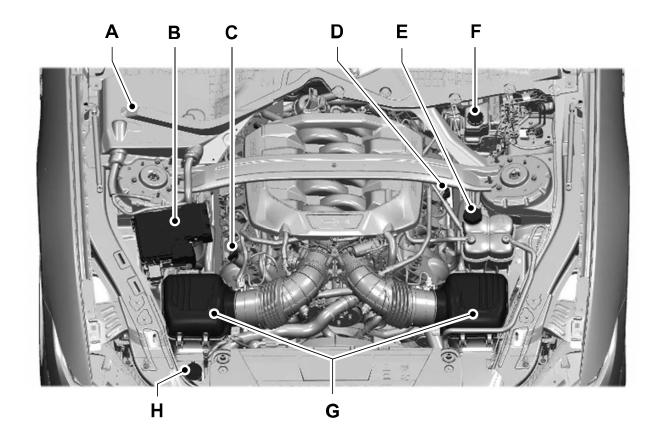
### UNDER HOOD OVERVIEW - 2.3L ECOBOOST™



- A Battery (out of view). See **Changing the 12V Battery** (page 308).
- B Engine oil filler cap. See **Checking the Engine Oil Level** (page 299).
- C Engine oil dipstick. See **Engine Oil Dipstick Overview** (page 299).
- D Brake fluid reservoir. See **Checking the Brake Fluid** (page 182).
- E Engine coolant reservoir. See **Checking the Coolant Level** (page 302).
- F Air filter assembly. See **Changing the Engine Air Filter** (page 301).
- G Windshield washer fluid reservoir. See Adding Washer Fluid (page 94).
- H Power distribution box. See **Fuses** (page 287).

**Note:** Your vehicle may not have an engine cover as shown.

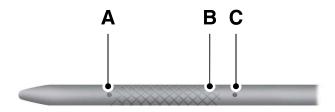
### **UNDER HOOD OVERVIEW - 5.0L**



- A. Battery (out of view). See **Changing the 12V Battery** (page 308).
- B. Engine compartment fuse box. See **Fuses** (page 287).
- C. Engine oil filler cap. See **Adding Engine Oil** (page 299).
- D. Engine oil dipstick. See **Checking the Engine Oil Level** (page 299).
- E. Engine coolant reservoir. See **Checking the Coolant Level** (page 302).
- F. Brake fluid reservoir. See **Checking the Brake Fluid** (page 182).
- G. Air filter. See **Changing the Engine Air Filter** (page 301).
- H. Washer system fluid reservoir. See **Adding Washer Fluid** (page 94).

### **ENGINE OIL**

### **ENGINE OIL DIPSTICK OVERVIEW**



- A Minimum.
- B Nominal.
- C Maximum.

### **CHECKING THE ENGINE OIL LEVEL**

- 1. Make sure that your vehicle is on level ground.
- 2. Check the oil level before starting the engine, or switch the engine off after warm up and wait 15 minutes for the oil to drain into the oil pan.

**Note:** Checking the oil level too soon could result in an inaccurate reading.

- 3. Remove the dipstick and wipe it with a clean, lint-free cloth.
- 4. Reinstall the dipstick and make sure it is fully seated.
- 5. Remove the dipstick again to check the oil level.

**Note:** If the oil level is between the maximum and minimum marks, the oil level is acceptable. Do not add oil.

6. If the oil level is at the minimum mark, immediately add oil.

7. Reinstall the dipstick. Make sure it is fully seated.

**Note:** The oil consumption of new engines reaches its normal level after approximately 3,000 mi (5,000 km).

**Note:** Increases in oil level can occur from frequent short trips that do not allow the engine to get to operating temperature, as well as frequent idling or low speed driving for long periods of time.

**Note:** If oil levels are continuously noted above the maximum mark, have your vehicle checked as soon as possible.

#### ADDING ENGINE OIL

**WARNING:** Do not remove the filler cap when the engine is running.

**WARNING:** Do not add engine oil when the engine is hot. Failure to follow this instruction could result in personal injury.

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

- 1. Clean the area surrounding the engine oil filler cap before you remove it.
- 2. Remove the engine oil filler cap.
- Add engine oil that meets our specifications. See Capacities and Specifications (page 363).
- 4. Reinstall the engine oil filler cap. Turn it clockwise until you feel a strong resistance.

**Note:** Do not add oil further than the maximum mark. Oil levels above the maximum mark may cause engine damage.

**Note:** Immediately soak up any oil spillage with an absorbent cloth.

#### INTELLIGENT OIL LIFE MONITOR

Under certain conditions the vehicle's intelligent oil life monitor may determine your oil requires replacement prior to your general service. Should this occur it is recommended you replace your oil within two weeks or 500 mi (800 km) of being alerted.

Your authorized dealer will be able to advise you whether only an engine oil and filter change is recommended or whether you should complete your general service inclusive of oil and oil Filter.

## RESETTING THE INTELLIGENTOIL LIFE MONITOR

- 1. Press **Settings** on the touchscreen.
- 2. Press Vehicle Settings.
- 3. Select Oil Life.
- 4. Press and hold the **OK** button until the system reset confirmation appears.

## ENGINE OIL CAPACITY AND SPECIFICATION

For filling information, please refer to the Capacities and Specifications section of your owner's manual. See **Capacities and Specifications** (page 363).

#### **ENGINE AIR FILTER**

## CHANGING THE ENGINE AIR FILTER - 2.3L ECOBOOST™

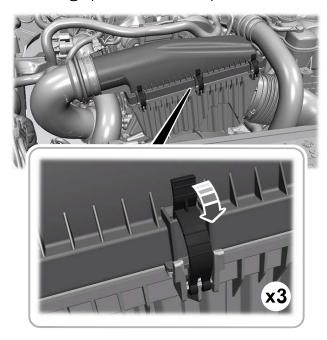
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

Change the air filter element at the proper intervals. See **Scheduled Maintenance** (page 433).

When changing the air filter element, use only the air filter element listed. See **Capacities and Specifications** (page 363).

**Note:** Failure to use the correct air filter element could result in severe engine damage that the vehicle Warranty may not cover.

**Note:** When servicing the air cleaner, do not allow foreign material to enter the air induction system. The engine is susceptible to damage from even small particles.



- 1. Release the clips that secure the air filter cover to the housing.
- 2. Carefully lift the air filter housing cover.
- 3. Remove the air filter element from the air filter housing.
- 4. To install, reverse the removal procedure.

## CHANGING THE ENGINE AIR FILTER - 5.0L

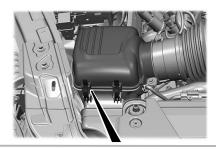
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

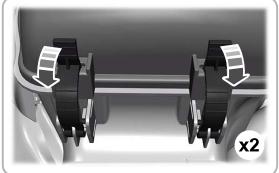
Change the air filter element at the proper intervals. See **Scheduled Maintenance** (page 433).

When changing the air filter element, use only the air filter element listed. See **Capacities and Specifications** (page 363).

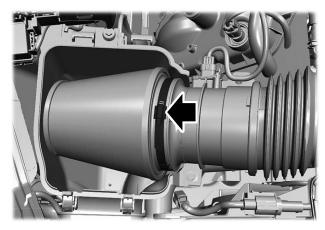
**Note:** Failure to use the correct air filter element could result in severe engine damage that the vehicle Warranty may not cover.

**Note:** When servicing the air cleaner, do not allow foreign material to enter the air induction system. The engine is susceptible to damage from even small particles.

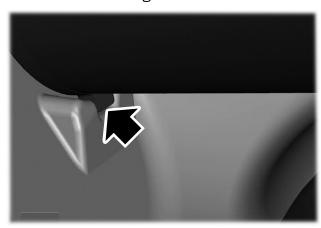




- 1. Release the clips that secure the air filter cover to the housing.
- 2. Carefully lift the air filter housing cover.



- 3. Loosen the clamp that secures the air filter to the air duct.
- 4. Remove the air filter element from the air filter housing.



5. To install, reverse the removal procedure.

**Note:** Ensure that the tab on the bottom of the filter is properly seated to the notch in the housing.

6. Repeat the procedure with the second air filter assembly.

### COOLANT

### CHECKING THE COOLANT LEVEL

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

**WARNING:** To reduce the risk of personal injury, make sure the engine is cool before unscrewing the coolant pressure relief cap. The cooling system is under pressure. Steam and hot liquid can come out forcefully when you loosen the cap slightly.

When the engine is cold, check the concentration and level of the coolant at the intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 433).

**Note:** Make sure that the coolant level is between the **MIN** and the **MAX** marks on the coolant reservoir.

**Note:** Coolant expands when it is hot. The level may extend beyond the **MAX** mark. This is normal.

Maintain coolant concentration within 48% to 50%, which equates to a freeze point between -29°F (-34°C) and -35°F (-37°C). Coolant concentration should be checked using a refractometer. We do not recommend the use of hydrometers or coolant test strips for measuring coolant concentration.

### **ADDING COOLANT**

**WARNING:** Do not add coolant when the vehicle is on or the cooling system is hot. Failure to follow this instruction could result in personal injury.

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

**WARNING:** Do not allow the fluid to touch your skin or eyes. If this happens, rinse the affected areas immediately with plenty of water and contact your physician.

**WARNING:** Do not put coolant in the windshield washer reservoir. If sprayed on the windshield, coolant could make it difficult to see through the windshield.

**WARNING:** Do not add coolant further than the **MAX** mark.

**Note:** Do not use stop leak pellets, cooling system sealants, or non-specified additives as they can cause damage to the engine cooling or heating systems. Resulting component damage may not be covered by the vehicle Warranty.

**Note:** Automotive fluids are not interchangeable.

It is very important to use prediluted coolant approved to the correct specification in order to avoid plugging the small passageways in the engine cooling system. See **Capacities and** 

**Specifications** (page 363). Do not mix different colors or types of coolant in your vehicle. Mixing of engine coolants or using an incorrect coolant may harm the engine or cooling system components and may not be covered by the vehicle Warranty.

**Note:** If prediluted coolant is not available, use the approved concentrated coolant diluting it to 50/50 with deionised or distilled water. See **Capacities and Specifications** (page 363). Using water that has not been deionised may contribute to deposit formation, corrosion and plugging of the small cooling system passageways.

**Note:** Coolants marketed for all makes and models may not be approved to our specifications and may cause damage to the cooling system. Resulting component damage may not be covered by the vehicle Warranty.

If the coolant level is at or below the minimum mark, add prediluted coolant immediately.

To top up the coolant level do the following:

- Unscrew the cap slowly. Any pressure escapes as you unscrew the cap.
- 2. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 363).
- 3. Add enough prediluted coolant to reach the correct level.
- 4. Replace the coolant reservoir cap. Turn the cap clockwise until it contacts the hard stop.

5. Check the coolant level in the coolant reservoir the next few times you drive your vehicle. If necessary, add enough prediluted engine coolant to bring the coolant level to the correct level.

If you have to add more than 1.1 qt (1 L) of engine coolant per month, have your vehicle checked as soon as possible. Operating an engine with a low level of coolant can result in engine overheating and possible engine damage.

In case of emergency, you can add a large amount of water without engine coolant in order to reach a vehicle service location.

Water alone, without engine coolant, can cause engine damage from corrosion, overheating or freezing.

Do not use the following as a coolant substitute:

- Alcohol.
- Methanol.
- Brine.
- Any coolant mixed with alcohol or methanol antifreeze.

Alcohol and other liquids can cause engine damage from overheating or freezing.

Do not add extra inhibitors or additives to the coolant. These can be harmful and compromise the corrosion protection of the coolant.

### **CHANGING THE COOLANT**

For coolant change, see your authorized dealer.

Changing the coolant is necessary at specific mileage intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 433).

## MANAGING THE COOLANT TEMPERATURE

If you tow a trailer with your vehicle, the engine may temporarily reach a higher temperature during severe operating conditions, for example ascending a long or steep grade in high ambient temperatures.

At this time, you may notice the coolant temperature gauge moves toward the red zone and a message may appear in the information display.

**WARNING:** To reduce the risk of crash and injury, be prepared that the vehicle speed may reduce and the vehicle may not be able to accelerate with full power until the coolant temperature reduces.

**WARNING:** If you continue to drive your vehicle when the engine is overheating, the engine could stop without warning. Failure to follow this instruction could result in the loss of control of your vehicle.

You may notice a reduction in vehicle speed caused by reduced engine power in order to manage the engine coolant temperature. Your vehicle may enter this mode if certain high-temperature and high-load conditions take place. The amount of speed reduction depends on vehicle loading, grade and outside temperature. If this occurs, there is no need to stop your vehicle. You can continue to drive. See **Fail-Safe Cooling** (page 283).

The air conditioning may automatically turn on and off during severe operating conditions to protect the engine from overheating. When the coolant temperature decreases to the normal operating temperature, the air conditioning turns on.

If the coolant temperature gauge moves fully into the red zone, or if the coolant temperature warning or service engine soon messages appear in your information display, do the following:

- Stop your vehicle as soon as it is safe to do so. Fully apply the parking brake, shift into park (P) or neutral (N).
- 2. Leave the engine running until the coolant temperature gauge needle returns to the normal position. If the temperature does not drop after several minutes, follow the remaining steps.
- 3. Switch the engine off and wait for it to cool. Check the coolant level.
- 4. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
- 5. If the coolant level is normal, restart the engine and continue.

### **COOLANT – WARNING LAMPS**



If the engine begins to overheat, the coolant temperature gauge moves toward the red zone.



A warning lamp illuminates and a message may appear in the information display.

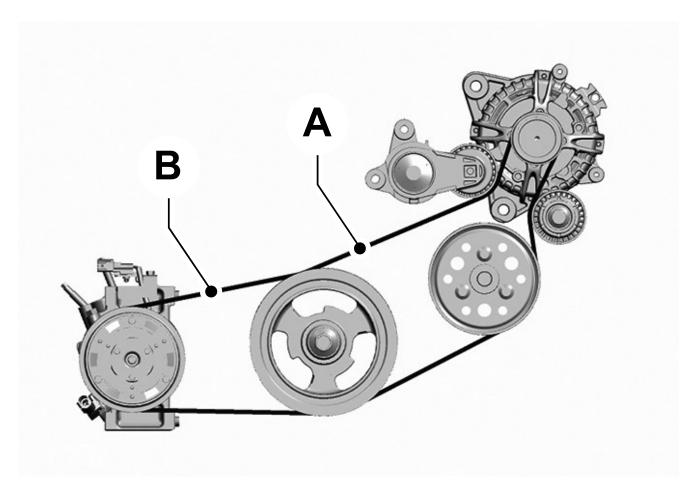
### **COOLANT - INFORMATION MESSAGES**

Message	Description and Action
High engine temperature Stop safely	Displays when the engine temperature is too high. Stop your vehicle as soon as it is safe to do so, switch the engine off and allow it to cool. If the problem persists, have your vehicle checked as soon as possible. See <b>Checking the Coolant Level</b> (page 302).

### **CHANGING THE FUEL FILTER**

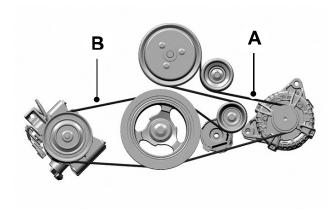
Your vehicle has a lifetime fuel filter that integrates with the fuel tank. It does not need regular maintenance or replacement.

### DRIVE BELT ROUTING OVERVIEW - 2.3L ECOBOOST™



- A. Long drive belt is closest to the engine.
- B. Short drive belt is furthest from the engine.

# DRIVE BELT ROUTING OVERVIEW - 5.0L



- A. Short drive belt is closest to the engine.
- B. Long drive belt is furthest from the engine.

### **12V BATTERY**

#### 12V BATTERY PRECAUTIONS

warning: Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When working near the battery, always shield your face and protect your eyes. Always provide correct ventilation.

warning: When lifting a plastic-cased battery, excessive pressure on the end walls could cause acid to flow through the vent caps, resulting in personal injury and damage to the vehicle or battery. Lift the battery with a battery carrier or with your hands on opposite corners.

warning: Keep batteries out of reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Shield your eyes when working near the battery to protect against possible splashing of acid solution. In case of acid contact with skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately.

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

warning: This vehicle may have more than one battery. Removing the battery cables from only one battery does not disconnect your vehicle electrical system. Make sure you disconnect the battery cables from all batteries when disconnecting power. Failure to do so may cause serious personal injury or property damage.

**WARNING:** For vehicles with Auto-Start-Stop the battery requirement is different. You must replace the battery with one of exactly the same specification.

## WHAT IS THE BATTERY MANAGEMENT SYSTEM

The battery management system monitors battery conditions and takes actions to extend battery life.

## HOW DOES THE BATTERY MANAGEMENT SYSTEM WORK

If excessive battery drain is detected, the system temporarily disables some electrical systems to protect the battery.

Systems included are:

- Heated rear window.
- Heated seats.
- Climate control.
- Heated steering wheel.
- Audio unit.
- Navigation system.

A message could appear in the information display to alert you that battery protection actions are active. This message is only for notification that an action is taking place, and not intended to indicate an electrical problem or that the battery requires replacement.

## BATTERY MANAGEMENT SYSTEM LIMITATIONS

After battery replacement, or in some cases after charging the battery with an external charger, the battery management system requires eight hours of vehicle sleep time to relearn the battery state of charge. During this time, your vehicle must remain fully locked with the ignition switched off.

**Note:** Prior to relearning the battery state of charge, the battery management system could temporarily disable some electrical systems.

### **Electrical Accessory Installation**

To make sure the battery management system works correctly, do not connect an electrical device ground connection directly to the battery negative post. This can cause inaccurate measurements of the battery condition and potential incorrect system operation.

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

#### **CHANGING THE 12V BATTERY**

The battery is in the engine compartment. See **Maintenance** (page 296).

Your vehicle has a maintenance-free battery. It does not require additional water during service.

If the vehicle battery has a cover, make sure you correctly install it after cleaning or replacing the battery.

For longer, trouble-free operation, keep the top of the battery clean and dry and the battery cables tightly fastened to the battery terminals. If any corrosion is present on the battery or terminals, remove the cables from the terminals and clean with a wire brush. You can neutralize the acid with a solution of baking soda and water.

We recommend that you disconnect the negative battery cable terminal from the battery if you plan to store your vehicle for an extended period.

**Note:** If you only disconnect the negative battery cable terminal, make sure it is isolated or placed away from the battery terminal to avoid unintended connection or arcing.

If you disconnect or replace the battery and your vehicle has an automatic transmission, it must relearn its adaptive strategy. Because of this, the transmission may shift firmly when first driven. This is normal operation while the transmission fully updates its operation to optimum shift feel.

### **Removing the Battery**

- 1. Apply the parking brake and switch the ignition off.
- 2. Switch all electrical equipment off, for example lights and radio.
- 3. Wait a minimum of two minutes before disconnecting the battery.

**Note:** The engine management system has a power hold function and remains powered for a period of time after you switch the ignition off. This is to allow diagnostic and adaptive tables to be stored. Disconnecting the battery without waiting can cause damage not covered by the vehicle Warranty.

- 4. Disconnect and isolate the negative battery cable terminal.
- 5. Disconnect and isolate the positive battery cable terminal.
- 6. Remove the battery securing clamp.
- 7. Remove the battery.

If you disconnect or replace the vehicle battery, you must reset the following features:

- Window bounce-back. See **Window Bounce-Back** (page 105).
- Clock Settings.
- Pre-set radio stations.

### **Replacing the Battery**

**Note:** Before reconnecting the battery, make sure the ignition remains switched off.

You must replace the battery with one of exactly the same specification.

To install, reverse the removal procedure.

**Note:** Make sure that you correctly install the battery terminal covers, battery cover and battery cable terminals.

## RESETTING THE BATTERY SENSOR

When you install a new battery, reset the battery sensor by doing the following:

I. Switch the ignition on, and leave the engine off.

**Note:** Complete Steps 2 and 3 within 10 seconds.

- 2. Flash the high beam headlamps five times, ending with the high beams off.
- 3. Press and release the brake pedal three times.

The battery warning lamp flashes three times to confirm that the reset is successful.

## RECYCLING AND DISPOSING OF THE 12V BATTERY



Make sure that you dispose of old batteries in an environmentally friendly way.

Seek advice from your local authority about recycling old batteries.

# 12V BATTERY — TROUBLESHOOTING

#### 12V BATTERY – WARNING LAMPS



If it illuminates while driving, it indicates a charging system error. Switch off all unnecessary

electrical equipment and have your vehicle immediately checked.

### 12V BATTERY - INFORMATION MESSAGES

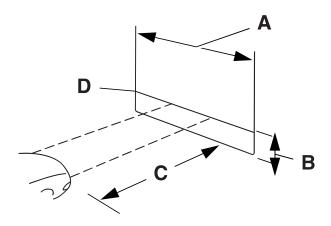
Message	Details
Check Charging System	The charging system needs servicing. If the warning stays on or continues to come on, have your vehicle checked as soon as possible.
Charging System Service Soon	The charging system needs servicing. If the warning stays on or continues to come on, have your vehicle checked as soon as possible.
Charging System Service Now	The charging system needs servicing. Have your vehicle immediately checked.
Battery State of Charge Low	The battery management system determines that the 12V battery is at a low state of charge. Start the engine to charge the battery or charge the battery using an aftermarket battery charger. Always use the vehicle ground point when connecting the negative cable of the external battery charger. See Jump Starting the Vehicle (page 280). This message clears once you restart your vehicle and the battery state of charge has recovered. Do not switch on the ignition when a battery charger is in use to charge the battery.
Turn Power Off To Save Battery	The battery management system determines that the battery is at a low state of charge. Turn the ignition off as soon as possible to protect the battery. This message will clear once the vehicle has been started and the battery state of charge has recovered. Turning off unnecessary electrical loads will allow faster battery state-of-charge recovery.
Electrical Power Saver Active Some Features Turned Off See Manual	Displayed when the battery management system detects an extended low-voltage condition. Various vehicle features will be disabled to help preserve the battery. Turn off as many of the electrical loads as soon as possible to improve system voltage. If the system voltage has recovered, the disabled features will operate again as normal.

### **ADJUSTING THE HEADLAMPS**

### **Vertical Aim Adjustment**

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

### **Headlamp Aiming Target**



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

### **Vertical Aim Adjustment**

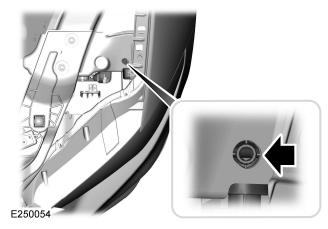
- 1. Park the vehicle directly in front of a wall or screen on a level surface, approximately 25 ft (7.6 m) away.
- 2. Measure the height from the center of your headlamp indicated by a 3 mm circle on the lens to the ground and mark an 8 ft (2.4 m) horizontal reference line on the vertical wall or screen at this height, a piece of masking tape works well.

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

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



4. On the wall or screen you will observe a flat zone of high intensity light at the top of the right-hand portion of the beam pattern. If the top edge of the high intensity light zone is not at the horizontal reference line, the headlamp needs to be adjusted.



- Locate the vertical adjuster on each headlamp. Use a Phillips #2 screwdriver to turn the adjuster either clockwise or counterclockwise to adjust the vertical aim of the headlamp.
- 6. Repeat Steps 3 through 7 to adjust the other headlamp.
- 7. Close the hood and turn off the lamps.

### Horizontal Aim Adjustment

The headlamps are not equipped with horizontal adjusters.

### **EXTERIOR BULBS**

## EXTERIOR BULB SPECIFICATION CHART

Your vehicle has LED lamps. These are not serviceable items. See an authorized dealer if they fail.

### **INTERIOR BULBS**

## INTERIOR BULB SPECIFICATION CHART

Your vehicle has LED lamps. These are not serviceable items. See an authorized dealer if they fail.

Appropriately change the engine oil for track events. Before and after track events, drain the engine oil and replace the engine oil filter.

- 2.3L: See Engine Oil Capacity and Specification (page 369).
- 5.0L: See Engine Oil Capacity and Specification (page 370).

Regularly check the engine oil level during the event. Maintain the engine oil level at or near the max mark on the engine oil dipstick. See **Checking the Engine Oil Level** (page 299).

## Operating at High Speeds and Track Days

**WARNING:** Before driving at high speeds, adjust the tire pressures to the recommended tire inflation pressures which are on the tire information label on the driver side B-pillar. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

Your vehicle is capable of sustained high speeds and track day driving.

Before operating your vehicle at high speeds:

- Verify your tires have the correct pressures.
- Inspect wheels and tires for wear and damage. Replace any damaged wheels and tires.
- Check and set lug nut torque. See
   Wheel Nuts (page 361).
- Verify fluid levels for oil, coolant, brake and hydraulic fluid. See Capacities and Specifications (page 363).
- Change the oil and filter prior to use on the track.

After operating your vehicle at high speeds or track day driving, do the following:

- Set the tire pressure to the proper specification.
- Check and set the lug nut torque. See
   Wheel Nuts (page 361).
- Check all fluid levels.
- Refer to the track maintenance interval chart. See **Normal Scheduled Maintenance** (page 436).
- Check the front and rear wheel bearings for abnormal wear.
- Inspect brake caliper dust boots for abnormal wear.

### **Drive Modes and Track Apps**

If you are operating your vehicle on a drag strip, use the drag strip selectable drive mode in addition to using line lock and launch control to provide a specific set-up tuned for the quickest straight line elapsed times.

If you are operating your vehicle on a road course, use the sport or track selectable drive mode to provide a specific set-up tuned for optimal shift and suspension set-up that is tuned towards handling prowess on closed course surfaces. See **Drive Modes** (page 227). See **Track Apps** (page 402).

### **Recovery Towing**

If needed, your vehicle has an installation point for a recovery hook behind the fascia. See **Recovery Towing** (page 282).

#### Track Use Maintenance Intervals

Follow these maintenance intervals for when you use your vehicle on a track or in a high speed event.

Interval	Vehicle Use and Example
One track weekend or approximately 4 hours of track use.	Change the engine oil and filter.
Every 500 mi (800 km). 1	Change the rear axle fluid.

<sup>&</sup>lt;sup>1</sup>Change the fluid every 500 mi (800 km) or when a message appears in the instrument cluster display stating that the axle fluid is over temperature.

### **Timing Chain**

If you use your vehicle extensively at a race track or at high rpm, it is possible to exceed the service life of the engine timing chain. A wrench indicator illuminates when it is time for you to replace your chain. Have your vehicle checked as soon as possible.

## Adjustable Camber Front Strut Top Mounts (If Equipped)

Your vehicle has adjustable strut mounts which you can use to adjust the camber of your vehicle before and after a track event to the specifications listed in the Road Course Alignment Recommendations table previously shown.

**Note:** After your track day is complete, return your car to the street alignment and tire pressures.

#### **Catch Can**

If you plan to track your vehicle and it did not come with an oil catch can, we recommend that you purchase the catch can kit though your authorized dealer or Ford Performance Parts Catalog.

Installation instructions are included with the catch can.

The catch can has a self-draining feature and does not require any maintenance.

### **Brake Burnishing**

Properly burnish the brakes prior to heavy track use. Excessive brake noise may occur after the track burnish or track use. Perform this procedure in a safe manner on dry pavement, and in compliance with all local and state ordinances and laws regarding motor vehicle operation.

#### **How to Burnish the Brakes**

Initial low temperature bedding:

If your brakes already have 200 mi (322 km) or more of city driving, skip this step and go directly to the high temperature bedding cycle procedure. Otherwise, perform at least 30 stops from 50 mph (80 km/h) at 1/3 g deceleration with 1 mi (1.2 km) spacing between stops. A deceleration gauge can be accessed through the Track Apps menu in your touchscreen.

High temperature bedding cycle:

Beginning with cool brakes, perform 15 consecutive stops back to back, accelerating at 3/4 throttle to 80 mph (128 km/h) and braking to 20 mph (32 km/h) at 1.0 g deceleration. The brakes may emit an odor or smoke during this part of the procedure.

#### Cool down:

 Cool the brakes down by driving one or two laps, 5 mi (8 km), at 60 mph (96 km/h) with minimal to no brake usage.

Recovery low temperature bedding:

 Perform at least 30 stops from 50 mph (80 km/h) at 1/3 g deceleration with 0.7 mi (1.2 km) spacing between stops. A deceleration gauge can be accessed through the Track Apps menu in your touchscreen.

### TRACK USE - DARK HORSE

Appropriately change the engine oil for track events. Before and after track events, drain the engine oil and replace the engine oil filter. See **Engine Oil Capacity and Specification** (page 370).

Regularly check the engine oil level during the event. Maintain the engine oil level at or near the max mark on the engine oil dipstick. See **Checking the Engine Oil Level** (page 299).

## Operating at High Speeds and Track Days

**WARNING:** Before driving at high speeds, adjust the tire pressures to the recommended tire inflation pressures which are on the tire information label on the driver side B-pillar. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

Your vehicle is capable of sustained high speeds and track day driving.

Before operating your vehicle at high speeds:

- Verify your tires have the correct pressures.
- Inspect wheels and tires for wear and damage. Replace any damaged wheels and tires.
- Check and set lug nut torque. See Wheel Nuts (page 361).

- Verify fluid levels for oil, coolant, brake and hydraulic fluid. See Capacities and Specifications (page 363).
- Change the oil and filter prior to use on the track.

After operating your vehicle at high speeds or track day driving, do the following:

- Set the tire pressure to the proper specification.
- Check and set the lug nut torque. See **Wheel Nuts** (page 361).
- Check all fluid levels.
- Refer to the track maintenance interval chart. See Normal Scheduled Maintenance (page 436).
- Check the front and rear wheel bearings for abnormal wear.
- Inspect brake caliper dust boots for abnormal wear.

### **Drive Modes and Track Apps**

If you are operating your vehicle on a drag strip, use the drag strip selectable drive mode in addition to using line lock and launch control to provide a specific set-up tuned for the quickest straight line elapsed times.

If you are operating your vehicle on a road course, use the sport or track selectable drive mode to provide a specific set-up tuned for optimal shift and suspension set-up that is tuned towards handling prowess on closed course surfaces. See **Drive Modes** (page 227). See **Track Apps** (page 402).

#### **Recovery Towing**

If needed, your vehicle has an installation point for a recovery hook behind the fascia. See **Recovery Towing** (page 282).

### **Track Use Maintenance Intervals**

Follow these maintenance intervals for

when you use your vehicle on a track or in a high speed event.

Interval	Vehicle Use and Example
One track weekend or approximately 4 hours of track use.	Change the engine oil and filter.
Every 500 mi (800 km). 1	Change the rear axle fluid.

<sup>&</sup>lt;sup>1</sup>Change the fluid every 500 mi (800 km) or when a message appears in the instrument cluster display stating that the axle fluid is over temperature.

### **Timing Chain**

If you use your vehicle extensively at a race track or at high rpm, it is possible to exceed the service life of the engine timing chain. A wrench indicator illuminates when it is time for you to replace your chain. Have your vehicle checked as soon as possible.

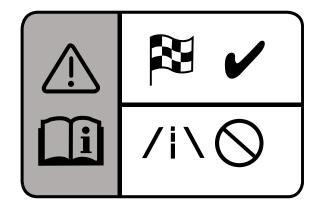
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Your vehicle has adjustable strut mounts which you can use to adjust the camber of your vehicle before and after a track event to the specifications listed in the Road Course Alignment Recommendations table previously shown.

**Note:** After your track day is complete, return your car to the street alignment and tire pressures.

### Aerodynamics (If Equipped)

### **Rear Gurney Flap**



## The rear Gurney flap must be removed for on-road driving.

Your vehicle may include a removable Gurney flap in the luggage compartment. The Gurney flap greatly enhances high speed stability and performance on the track. It is recommended that you use the Gurney flap at all tracks featuring high speed corners and can be used at any track regardless of cornering speeds.

You could benefit from the removal Gurney flap to improve low speed balance on smaller tracks with maximum cornering speeds below 70 mph (112 km/h). We recommend that you attach the Gurney flap for all track events and carefully assess both the vehicle's condition and your capability before removal.



**Note:** The Gurney flap comes with longer size bolts to install it onto the rear spoiler. **Do not use the longer size bolts without the Gurney flap attached or damage to the spoiler may occur.** 

#### **Catch Can**

If you plan to track your vehicle and it did not come with an oil catch can, we recommend that you purchase the catch can kit though your authorized dealer or Ford Performance Parts Catalog.

Installation instructions are included with the catch can.

The catch can has a self-draining feature and does not require any maintenance.

### **Brake Burnishing**

Properly burnish the brakes prior to heavy track use. Excessive brake noise may occur after the track burnish or track use. Perform this procedure in a safe manner on dry pavement, and in compliance with all local and state ordinances and laws regarding motor vehicle operation.

#### **How to Burnish the Brakes**

Initial low temperature bedding:

If your brakes already have 200 mi (322 km) or more of city driving, skip this step and go directly to the high temperature bedding cycle procedure. Otherwise, perform at least 30 stops from 50 mph (80 km/h) at 1/3 g deceleration with 1 mi (1.2 km) spacing between stops. A deceleration gauge can be accessed through the Track Apps menu in your touchscreen.

High temperature bedding cycle:

Beginning with cool brakes, perform 15 consecutive stops back to back, accelerating at 3/4 throttle to 80 mph (128 km/h) and braking to 20 mph (32 km/h) at 1.0 g deceleration. The brakes may emit an odor or smoke during this part of the procedure.

#### Cool down:

 Cool the brakes down by driving one or two laps, 5 mi (8 km), at 60 mph (96 km/h) with minimal to no brake usage.

Recovery low temperature bedding:

 Perform at least 30 stops from 50 mph (80 km/h) at 1/3 g deceleration with 0.7 mi (1.2 km) spacing between stops. A deceleration gauge can be accessed through the Track Apps menu in your touchscreen.

### **Vehicle Care**

### **CLEANING PRODUCTS**

For best results, use the following products or products of equivalent quality:

### **Materials**

Name	Specification
Motorcraft® Bug and Tar Remover, ZC-42 (U.S. & Canada)	-
Motorcraft® Custom Bright Metal Cleaner, ZC-15 (U.S. & Canada)	ESR-M5B194-B
Motorcraft® Detail Wash, ZC-3-A (U.S. & Canada)	ESR-M14P4-A
Motorcraft® Engine Shampoo and Degreaser, ZC-20 (U.S.)	ESR-M14P3-A
Motorcraft® Engine Shampoo, CXC-66-A (Canada)	-
Motorcraft® Premium Leather and Vinyl Cleaner, ZC-56 (U.S. & Canada)	-
Motorcraft® Multi-Purpose Cleaner, CXC-101 (Canada)	-
Motorcraft® Premium Windshield Wash Concentrate with Bitterant, ZC-32-B2 (U.S.)	WSS-M14P19-A
Motorcraft® Premium Quality Windshield Washer Fluid, CXC-37-F/M (Canada)	WSS-M14P19-A
Motorcraft® Professional Strength Carpet & Upholstery Cleaner, ZC-54 (U.S. & Canada)	-
Motorcraft® Premium Glass Cleaner, CXC-100 (Canada)	ESR-M14P5-A
Motorcraft® Spot and Stain Remover, ZC-14 (U.S.)	-
Motorcraft® Ultra-Clear Spray Glass Cleaner, ZC-23 (U.S.)	ESR-M14P5-A
Motorcraft® Wheel and Tire Cleaner, ZC-37-A (U.S. & Canada)	-

#### **CLEANING THE EXTERIOR**

## CLEANING THE EXTERIOR PRECAUTIONS

Immediately remove fuel spillages, additive residuals, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time. Remove any exterior accessories, for example antennas, before entering a car wash.

## CLEANING HEADLAMPS AND REAR LAMPS

We recommend that you only use cold or lukewarm water containing car shampoo to clean the headlamps and the rear lamps.

Do not scrape the lamps.

Do not wipe lamps when they are dry.

## CLEANING WINDOWS AND WIPER BLADES

To clean the windshield and wiper blades:

 Clean the windshield with a non-abrasive glass cleaner.

**Note:** 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.

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

**Note:** Do not use razor blades or other sharp objects to clean or remove decals from the inside of the heated rear window. This can cause damage not covered by the vehicle Warranty.

**Note:** We recommend cleaning the power sliding rear window at regular intervals to avoid dust and debris accumulation to deliver appropriate function.

## CLEANING CHROME, ALUMINIUM OR STAINLESS STEEL

We recommend that you only use a car shampoo, a soft cloth and water on bumpers and other chrome, aluminium or stainless steel parts.

**Note:** For additional information and assistance, we recommend that you contact an authorized dealer.

Note: Rinse the area well after cleaning.

**Note:** Do not use abrasive materials, for example steel wool or plastic pads, as they can scratch these surfaces.

**Note:** Do not use chrome cleaner, metal cleaner or polish on wheels or wheel covers.

#### **CLEANING WHEELS**

Only use a recommended wheel and tire cleaner to clean the wheels weekly. For additional information and assistance, we recommend that you contact an authorized dealer.

- Use a sponge to remove heavy deposits of dirt and brake dust.
- 2. Rinse well after cleaning.

**Note:** Do not apply a cleaning chemical to warm or hot wheel rims and covers.

If you intend on parking your vehicle for an extended period after cleaning the wheels with a wheel cleaner, drive your vehicle for a few minutes before parking your vehicle. This reduces the risk of corrosion of the brake discs, brake pads and linings.

Do not clean the wheels when they are hot.

**Note:** Some car washes could damage wheel rims and covers.

**Note:** Using non-recommended cleaners, harsh cleaning products, chrome wheel cleaners or abrasive materials could damage wheel rims and covers.

# CLEANING THE CONVERTIBLE TOP (If Equipped)

Remove lint with a lint roller or vacuum with a soft bristle brush.

Wash with an approved high quality convertible top cleaner and protectant.

**Note:** Do not use stiff bristle brushes, abrasive materials or household cleaning products.

**Note:** High pressure water may cause water leaks and possible seal damage to the convertible top.

## CLEANING STRIPES OR GRAPHICS

It is recommended to wash your vehicle by hand however, pressure washing may be used under the following conditions:

- Use a spray with a 40° wide spray angle pattern.
- Keep the nozzle at a 12 in (30 cm) distance and 90° angle to your vehicle's surface.
- Do not use water pressure higher than 1,450 psi (10,000 kPa).
- Do not use water hotter than 167°F (75°C).

**Note:** Holding the pressure washer nozzle at an angle to the vehicle's surface may damage graphics and cause the edges to peel away from the vehicle's surface.

## CLEANING CAMERA LENSES AND SENSORS

We recommend that you only use lukewarm or cold water and a soft cloth to clean the camera lens and sensors.

**Note:** Do not pressure wash camera lens and sensors.

#### **CLEANING THE UNDERBODY**

Flush the complete underside of your vehicle frequently. Keep body and door drain holes free from packed dirt.

Rear suspension components may require regular cleaning with a power washer or a thorough rinse with a strong stream of water if the vehicle is operated in dusty or muddy environments. Rear leaf springs or other suspension components may emit squeaking or popping noises while operating the vehicle if particles, such as dirt, rocks, or other debris, are present in the components.

#### **CLEANING THE INTERIOR**

## CLEANING THE INSTRUMENT PANEL

**WARNING:** Do not use chemical solvents or strong detergents when cleaning the steering wheel or instrument panel to avoid contamination of the airbag system.

We recommend that you only clean the instrument panel and cluster lens with a damp soft cloth. Dry the area with a clean, soft cloth.

For additional information and assistance, we recommend that you contact an authorized dealer.

**Note:** 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.

#### **CLEANING PLASTIC**

We recommend that you only use a mild soap and water solution on a soft cloth. Dry the area with a clean, soft cloth.

## CLEANING DISPLAYS AND SCREENS

We recommend that you only use a microfiber cloth in a circular motion to clean off the fingerprint or dust.

If dirt or fingerprints are still on the screen, apply a small amount of alcohol to the cloth and try to clean it again.

**Note:** Do not pour or spray alcohol onto the touchscreen.

**Note:** Do not use detergent or any type of solvent to clean the touchscreen.

#### **CLEANING FABRIC**

warning: On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean fabric in the following way:

- 1. Remove dust and loose dirt with a vacuum cleaner.
- 2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

3. For additional information and assistance, we recommend that you contact an authorized dealer.

For heavy stains, spot clean the area. If a ring forms on the fabric, clean the entire area immediately, but do not oversaturate or the ring could set.

#### **CLEANING LEATHER**

warning: On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean the leather surfaces in the following way:

- 1. Remove dust and loose dirt with a vacuum cleaner.
- 2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth
- 3. Make sure the leather is dry, then apply a small amount of conditioner to a clean, dry cloth.
- 4. Rub the conditioner into the leather until it disappears. Allow the conditioner to dry, then repeat the process for the entire interior. If a film appears, wipe it off with a dry, clean cloth.
- 5. For additional information and assistance, we recommend that you contact an authorized dealer.

#### **CLEANING VINYL**

**WARNING:** On vehicles equipped with seat-mounted airbags, do not use chemical solvents or strong detergents. Such products could contaminate the side airbag system and affect performance of the side airbag in a crash.

We recommend that you only clean vinyl surfaces in the following way:

- 1. Remove dust and loose dirt with a vacuum cleaner.
- 2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
- 3. For additional information and assistance, we recommend that you contact an authorized dealer.

# CLEANING CARPETS AND FLOOR MATS

We recommend that you only clean your carpets in the following way:

- Remove dust and loose dirt with a vacuum cleaner.
- 2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
- 3. For additional information and assistance, we recommend that you contact an authorized dealer.

For heavy stains, spot clean the area. If a ring forms on the fabric, clean the entire area immediately, but do not oversaturate or the ring could set.

We recommend that you only clean your floor mats in the following way:

- 1. Remove dust and loose dirt with a vacuum cleaner.
- 2. Wash rubber floor mats using mild soap and lukewarm or cold water.
- 3. Completely dry the floor mat before placing them back in your vehicle.

#### **CLEANING SEATBELTS**

**WARNING:** Do not use cleaning solvents, bleach or dye on the vehicle's seatbelts, as these actions may weaken the belt webbing.

 Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

## CLEANING STORAGE COMPARTMENTS

- 1. Remove dust and loose dirt with a vacuum cleaner.
- 2. Wipe the surface with a soft, damp cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.

# REPAIRING MINOR PAINT DAMAGE

We recommend that you contact an authorized dealer to identify your vehicle color code. Authorized dealers have touch-up paint to match your vehicle's color.

Before repairing minor paint damage, use a cleaner to remove particles such as bird droppings, tree sap, insect deposits, tar spots, road salt and industrial fallout.

Read the instructions before using cleaning products.

#### **WAXING YOUR VEHICLE**

Wax the high-gloss painted surface of your prewashed vehicle once or twice a year.

We recommend that you only use an approved quality wax that does not contain abrasives. Follow the manufacturer's instructions to apply and remove the wax. For additional information and assistance, we recommend that you contact an authorized dealer.

When washing and waxing, park your vehicle in a shaded area out of direct sunlight.

**Note:** Avoid waxing unpainted or low-gloss black colored parts, they discolor over time.

## **Body Styling Kits**

# BODY STYLING KIT PRECAUTIONS

The distance between the underside of your vehicle and the ground is less than that of other models. Drive with extreme care to avoid damage to your vehicle.

## **Storing Your Vehicle**

# PREPARING YOUR VEHICLE FOR STORAGE

If you plan on storing your vehicle for 30 days or more, the following maintenance recommendations ensures your vehicle stays in good operating condition.

Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve your vehicle.

#### General

- Store all vehicles in a dry, ventilated place.
- If vehicles are stored outside, they require regular maintenance to protect against rust and weather damage.
- 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.
- Fill the fuel tank with high-quality fuel until the first automatic shutoff of the fuel pump nozzle.

#### **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.

#### **Body**

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear wheel housings 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. Rewax 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.

#### **12 Volt Battery**

- When storing your vehicle for longer than 30 days the state of charge should be approximately 50%.
   Additionally, we recommend to disconnect the 12v battery to reduce system loads on the battery, or you can use a trickle charger for longer storage periods.
- Check and recharge as necessary. Keep connections clean.

**Note:** It is necessary to reset memory features if you disconnect the battery cables.

## **Storing Your Vehicle**

#### **Tires**

- Maintain recommended air pressure.
- To minimize flat spots on the tires, inflate all four tires to the recommended cold pressures listed on the Safety Compliance Certification label or Tire Label affixed to your vehicle. When the vehicle is taken out of storage, reset the tire pressures as necessary to the recommended levels listed on the Safety Compliance Certification label or Tire Label affixed to your vehicle.

**Note:** If you store your vehicle in a location with low ambient temperatures, follow the instructions for care of summer tires. See **Using Summer Tires** (page 336).

#### **Brakes**

Make sure the brakes and parking brake fully release.

**Note:** If you intend on parking your vehicle for an extended period after cleaning the wheels with a wheel cleaner, drive your vehicle for a few minutes before doing so to reduce the risk of increased corrosion of the brake discs, brake pads and linings.

# REMOVING YOUR VEHICLE FROM STORAGE

When your vehicle is ready to come out of storage, do the following:

- We recommend that you change the engine oil before you use your vehicle again.
- Wash your vehicle to remove any dirt or grease film build-up on window surfaces.
- Check windshield wipers for any deterioration.

- Check the underhood for any foreign materials such as mice or squirrel nests.
- Check the exhaust for any foreign materials.
- Check tire pressures and set tire inflation per the Tire Label.
- Check brake pedal operation. Corroded brake rotors could cause brake noise.
   Drive your vehicle and gently apply and release the brakes repeatedly over a 10-minute drive to reduce the corrosion from the brakes.
- Check fluid levels (including coolant, oil and gas) to make sure there are no leaks, and fluids are at recommended levels.
- If you remove the battery, clean the battery cable ends and check for damage.

Contact an authorized dealer if you have any concerns or issues.

#### LOCATING THE TIRE LABEL

The tire label or safety certification label is on the driver side B-pillar or the edge of the driver door. It contains information on the recommended front and rear tire inflation pressures. See **Locating the Safety Compliance Certification Labels** (page 263).

## DEPARTMENT OF TRANSPORTATION UNIFORM TIRE QUALITY GRADES



Tire Quality Grades apply to new pneumatic passenger car tires. The Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example: **Treadwear 200 Traction AA Temperature A**.

These Tire Quality Grades are determined by standards that the United States Department of Transportation has set.

Tire Quality Grades apply to new pneumatic passenger car tires. They do not apply to deep tread, winter-type snow tires, space-saver or temporary use spare tires, light truck or LT type tires, tires with nominal rim diameters of 10 to 12 inches or limited production tires as defined in Title 49 Code of Federal Regulations Part 575.104 (c)(2).

U.S. Department of Transportation Tire quality grades: The U.S. Department of Transportation requires us 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 ABC

warning: The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.

#### Temperature A B C

warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

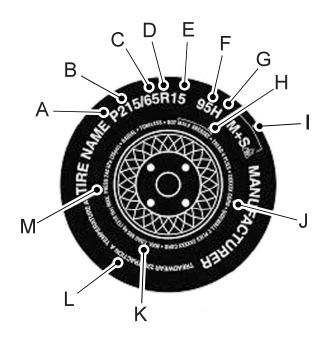
The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory

test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 139. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

# INFORMATION ON THE TIRE SIDEWALL

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

#### **Information on P Type Tires**



P215/65R15 95H is an example of a tire size, load index and speed rating. The definitions of these items are listed below. (Note that the tire size, load index and speed rating for your vehicle may be different from this example.)

A. **P:** Indicates a tire, designated by the Tire and Rim Association, that may be used for service on cars, sport utility vehicles, minivans and light trucks. **Note:** If your tire size does not begin with a letter this may mean it is designated by either the European Tire and Rim Technical Organization or the Japan Tire Manufacturing Association.

B. **215:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

C. **65:** Indicates the aspect ratio which gives the tire's ratio of height to width.

D. R: Indicates a radial type tire.

E. **15:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you 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 your owner's manual. If not, contact a local tire dealer.

**Note:** You may not find this information on all tires because it is not required by federal law.

G. **H:** Indicates the tire's speed rating. The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time under a standard condition of load and inflation pressure. The tires on your vehicle may operate at different conditions for load and inflation pressure. These speed ratings may need to be adjusted for the difference in conditions. The ratings range from 81 mph (130 km/h) to 186 mph(299 km/h). These ratings are listed in the following chart.

**Note:** You may not find this information on all tires because it is not required by federal law.

Letter rating	Speed rating
М	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)
Т	118 mph (190 km/h)
U	124 mph (200 km/h)
Н	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.

H. U.S. DOT Tire Identification Number (TIN): This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.

I. M+S or M/S: Mud and Snow, or

**AT:** All Terrain, or **AS:** All Season.

J. **Tire Ply Composition and Material Used:** Indicates the number of plies or the number of layers of rubber-coated fabric in the tire tread and sidewall. Tire manufacturers also must indicate the ply materials in the tire and the sidewall, which include steel, nylon, polyester, and others.

K. Maximum Load: Indicates the maximum load in kilograms and pounds that can be carried by the tire. See the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), for the correct tire pressure for your vehicle.

L. Treadwear, Traction and Temperature Grades:

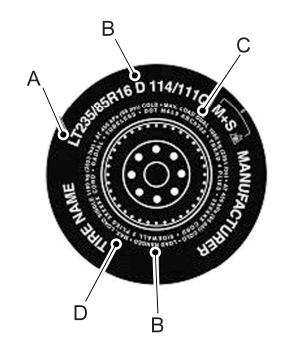
- \*Treadwear The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half times as well on the government course as a tire graded 100.
- \*Traction: The traction grades, from highest to lowest are AA, A, B, and C. The grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance.
- \***Temperature:** The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel.
- M. Maximum Inflation
  Pressure: Indicates the tire
  manufacturers' maximum
  permissible pressure or the
  pressure at which the maximum
  load can be carried by the tire. This
  pressure is normally higher than
  the vehicle manufacturer's
  recommended cold inflation
  pressure which can be found on
  the Safety Compliance
  Certification Label (affixed to
  either the door hinge pillar,
  door-latch post, or the door edge

that meets the door-latch post, next to the driver's seating position), or Tire Label which is located on the B-Pillar or the edge of the driver's door. The cold inflation pressure should never be set lower than the recommended pressure on the vehicle label.

The tire suppliers may have additional markings, notes or warnings such as standard load or radial tubeless.

#### Additional Information Contained on the Tire Sidewall for LT Type Tires

**Note:** Tire Quality Grades do not apply to this type of tire.



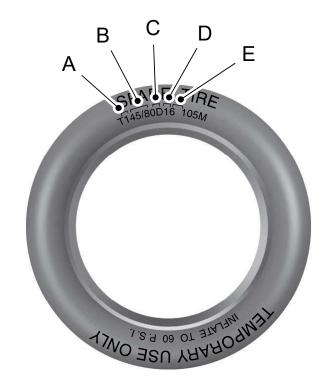
LT type tires have some additional information beyond those of P type tires; these differences are described below.

- A. **LT:** Indicates a tire, designated by the Tire and Rim Association, that is intended for service on light trucks.
- B. Load Range and Load Inflation Limits: Indicates the tire's load-carrying capabilities and its inflation limits.
- C. Maximum Load Dual lb (kg) at psi (kPa) cold: Indicates the maximum load and tire pressure when the tire is used as a dual, defined as four tires on the rear axle (a total of six or more tires on the vehicle).
- D. Maximum Load Single lb (kg) at psi (kPa) cold: Indicates the maximum load and tire pressure when the tire is used as a single, defined as two tires (total) on the rear axle.

#### **Information on T Type Tires**

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

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



T type tires have some additional information beyond those of P type tires; these differences are described below:

- A. **T:** Indicates a type of tire, designated by the Tire and Rim Association, that is intended for temporary service on cars, sport utility vehicles, minivans and light trucks.
- B. **145:** Indicates the nominal width of the tire in millimeters from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

C. **80:** Indicates the aspect ratio which gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall.

D. D: Indicates a diagonal type tire.

R: Indicates a radial type tire.

E. **16:** Indicates the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

# GLOSSARY OF TIRE TERMINOLOGY

- \***Tire label:** A label showing the original equipment tire sizes, recommended inflation pressure and the maximum weight the vehicle can carry.
- \*Tire Identification Number (TIN): A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture. Also referred to as DOT code.
- \*Inflation pressure: A measure of the amount of air in a tire.
- \*Standard load: A class of P-metric or Metric tires designed to carry a maximum load at set pressure. For example: For P-metric tires 35 psi (2.4 bar) and for Metric tires 36 psi (2.5 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.

- \*Extra load: A class of P-metric or Metric tires designed to carry a heavier maximum load at 42 psi (2.9 bar). Increasing the inflation pressure beyond this pressure will not increase the tire's load carrying capability.
- \***kPa:** Kilopascal, a metric unit of air pressure.
- \***PSI:** Pounds per square inch, a standard unit of air pressure.
- \*Cold tire pressure: The tire pressure when the vehicle has been stationary and out of direct sunlight for an hour or more and prior to the vehicle being driven for 1 mi (1.6 km).
- \*Recommended inflation pressure: The cold inflation pressure found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label located on the B-Pillar or the edge of the driver door.
- \* **B-pillar:** The structural member at the side of the vehicle behind the front door.
- \*Bead area of the tire: Area of the tire next to the rim.
- \* **Sidewall of the tire:** Area between the bead area and the tread.

\*Tread area of the tire: Area of the perimeter of the tire that contacts the road when mounted on the vehicle.

\*Rim: The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.

# TIRE REPLACEMENT REQUIREMENTS

Your vehicle is equipped with tires designed to provide a safe ride and handling capability.

WARNING: Only use replacement tires and wheels that are the same size. load index, speed rating, and type as those originally provided for your vehicle. The recommended tire and wheel sizes can be found on the Tire Label on the driver side door frame or the edge of the driver door. If this information is not found in those locations, or for additional options, contact your authorized dealer. Use of any tire or wheel not recommended, could affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

warning: To reduce the risk of serious injury, when mounting replacement tires and wheels, you should not exceed the maximum pressure indicated on the sidewall of the tire to set the beads without additional precautions listed below. If the beads do not seat at the maximum pressure indicated, re-lubricate and try again.

warning: For a mounting pressure more than 20 psi (1.38 bar) greater than the maximum pressure, a Ford dealer or other tire service professional should do the mounting.

warning: Always inflate steel carcass tires with a remote air fill with the person inflating standing at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.

**WARNING:** Only use the specified jacking points. If you use any other locations you could damage vehicle components, such as brake lines.

warning: When inflating the tire for mounting pressures up to 20 psi (1.38 bar) greater than the maximum pressure on the tire sidewall, the following precautions must be taken to protect the person mounting the tire:

- Make sure that you have the correct tire and wheel size.
- Lubricate the tire bead and wheel bead seat area again.
- Stand at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.
- Use both eye and ear protection.

**Note:** If your vehicle has 265/35R20 tires, replace them with original equipment tires provided by us. Using other tire sizes could damage your vehicle.

**Important:** Remember to replace the wheel valve stems when the road tires are replaced on your vehicle.

It is recommended that the two front tires or two rear tires generally be replaced as a pair if the worn tires still have usable depth.

The tire pressure sensors mounted in the wheels (originally installed on your vehicle) are not designed to be used in aftermarket wheels.

The use of wheels or tires not recommended may affect the operation of your tire pressure monitoring system.

If the tire pressure monitoring system indicator is flashing, your system is malfunctioning. Your replacement tire might be incompatible with your tire pressure monitoring system, or some component of the system may be damaged.

#### Age

warning: Tires degrade over time depending on many factors such as weather, storage conditions, and conditions of use (load, speed, inflation pressure) the tires experience throughout their lives.

In general, tires should be replaced after six years regardless of tread wear. However, heat caused by hot climates or frequent high loading conditions can accelerate the aging process and may require tires to be replaced more frequently.

You should replace your spare tire when you replace the road tires or after six years due to aging even if it has not been used.

# U.S. DOT Tire Identification Number

Both United States and Canada Federal regulations require tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a U.S. DOT Tire Identification Number for safety standard certification and in case of a recall.

This begins with the letters DOT and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code designating where it was manufactured, the next two are the tire size code and the last four numbers represent the week and year the tire was built. For example, the numbers 317 mean the 31st week of 1997. After 2000, the numbers go to four digits. For example, 2501 means the 25th week of 2001. The numbers in between are identification codes used for traceability. This information is used to contact customers if a tire defect requires a recall.

#### **USING SUMMER TIRES**

Summer tires provide superior performance on wet and dry roads. Summer tires do not have the Mud and Snow (M+S or M/S) tire traction rating on the tire side wall. Since summer tires do not have the same traction performance as All-season or Snow tires, we do not recommend using summer tires when temperatures drop to about 45°F (7°C) or below, depending on tire wear and environmental conditions, or in snow and ice conditions. Like any tire, summer tire performance is affected by tire wear and environmental conditions. If you must drive in those conditions, we recommend using Mud and Snow (M+S, M/S), All-season or Snow tires.

Always store your summer tires indoors at temperatures above 19°F (-7°C). The rubber compounds used in these tires lose flexibility and may develop surface cracks in the tread area at temperatures below 19°F (-7°C). If the tires have been subjected to 19°F (-7°C) or less, warm them in a heated space to at least 41°F (5°C) for at least 24 hours before installing them on a vehicle, or moving the vehicle with the tires installed, or checking tire inflation. Always inspect the tires after storage periods and before use.

#### **USING SNOW CHAINS**

**WARNING:** Do not exceed 30 mph (50 km/h). Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

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

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

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

**WARNING:** 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.

**WARNING:** Wheels and tires must be the same size, load index and speed rating as those originally fitted on the vehicle. Use of any other tire or wheel can affect the safety and performance of your vehicle. Additionally, the use of non-recommended tires and wheels can cause steering, suspension, axle, transfer case or power transfer unit failure. Follow the recommended tire inflation pressures found on the Safety Compliance Certification label, or the Tire Label on the B-Pillar or the edge of the driver door. Failure to follow this instruction could result in loss of vehicle control, vehicle rollover, or personal injury or death.

The tires on your vehicle could have all-weather treads to provide traction in rain and snow. In some climates you need to use snow tires and chains on your vehicle in emergency situations or if required by law.

**Note:** The suspension insulation and bumpers help prevent vehicle damage. Do not remove these components from your vehicle when using snow tires and chains.

**Note:** Driving too fast for road conditions creates the possibility of losing control of the vehicle. Driving at very high speeds for extended periods of time may result in damage to vehicle components.

**Note:** Snow chains could damage aluminum wheels.

Follow these guidelines when using snow tires and chains:

- Use ultra low profile cables, 10 mm or less in dimension as measured on the sidewall of your tire, with 235/55R17, 235/50R18, 255/45R18 and 255/40R19 on the rear axle only.
- Do not use snow chains or cables with 275/40R19, 305/30R19, 315/30R19, and 265/35R20.
- Not all S-class snow chains or cables meet the same restrictions. Chains of this size restriction include a tensioning device.
- Purchase chains or cables from a manufacturer that clearly labels body to tire dimension restrictions. Mount the snow chains or cables in pairs on the rear tires only.
- When driving with snow chains do not exceed 30 mph (50 km/h) or the maximum speed recommended by the chain manufacturer, whichever is less.
- Install cables securely, verifying that the cables do not touch any wiring or brake lines.

- Drive cautiously. If you hear the cables rub or bang against the vehicle, stop and retighten them. If this does not work, remove the cables to prevent vehicle damage.
- Remove the tire chains when they are no longer needed. Do not use tire chains on dry roads.

If you have any questions regarding snow chains or cables, contact your authorized dealer.

# CHECKING THE TIRE PRESSURES

Safe operation of your vehicle requires that your tires are properly inflated. Every day before you drive, check your tires.

At least once a month and before long trips, inspect each tire and check the tire pressure with a tire gauge. Inflate all tires to the recommended inflation pressure. See **Inflating the Tires** (page 339).

#### **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!

**WARNING:** Do not use the tire pressure displayed in the information display as a tire pressure gauge. Failure to follow this instruction could result in personal injury or death.

Use the recommended cold inflation pressure for optimum tire performance and wear. Under-inflation or over-inflation may cause uneven treadwear patterns.

Inflate your tires to the recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. You can find the tire label with the recommended tire inflation pressure next to the tire size on the B-Pillar or the edge of the driver door.

The recommended tire inflation pressure is also found on the Safety Compliance Certification Label, affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch on the B-pillar, or on the edge of the driver door.

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

# Checking Pressure when tires are hot:

If pressures are checked after tires have been driven for more than three minutes or more than 1 mile, (2 km) the tires become hot and the pressures will increase by approximately 4 psi (27.6 kPa). Therefore when the tire pressure is adjusted under these conditions, it should be increased to a gauge reading of 4 psi (27.6 kPa) greater than the recommended cold inflation pressure.

After inflating the tires while hot, make sure to recheck tire pressure later once the tires are cold.

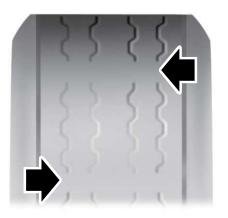
#### For Example Only

Gauge reading of hot tire	33 psi (230 kPa)
If recom- mended, cold inflation pres- sure is	32 psi (220 kPa)

The hot tire pressure is only 1 psi (10 kPa) greater than the recommended cold inflation pressure. Therefore, add 3 psi (20 kPa) more to increase the hot pressure to 4 psi (30 kPa) over the recommended cold inflation pressure.

New hot pressure 36 psi (250 kPa)

# INSPECTING THE TIRE FOR WEAR



When the tread is worn down to 2/32 inch (1.6 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 2/32 inch (1.6 mm).

When the tire tread wears down to the same height as these wear bars, the tire is worn out and must be replaced.

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

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

# INSPECTING THE TIRE FOR DAMAGE

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 dismounted 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.

Periodically inspect the tire treads and sidewalls for damage, such as bulges in the tread or sidewalls, cracks in the tread groove and separation in the tread or sidewall. If damage is observed or suspected, have the tire inspected by a tire professional.

## **Safety Practices**

**WARNING:** If your vehicle is stuck in snow, mud or sand, do not rapidly spin the tires; spinning the tires can tear the tire and cause an explosion. A tire can explode in as little as three to five seconds.

**WARNING:** Do not spin the wheels at over 34 mph (55 km/h). The tires may fail and injure a passenger or bystander.

# HIGH SPEED DRIVING CAN BE DANGEROUS

Correct inflation pressure is especially important. However, at high speeds, even with the correct inflation pressure, a road hazard for example is more difficult to avoid and if contact is made, has a greater chance of causing tire damage than at a lower speed. Moreover, driving at high speed reduces the reaction time available to avoid accidents and bring your vehicle to a safe stop.

If you see any damage to a tire or wheel, replace it with the spare at once and visit a participating Tire Retailer.

Exceeding the maximum speeds shown on the following page for each type of tire will cause the tire to build up excessive heat which can cause tire damage that could result in sudden tire destruction and rapid air loss. Failure to control a vehicle when one or more tires experience a sudden air loss can lead to an accident.

In any case, you should not exceed reasonable speeds as indicated by the legal limits and driving conditions.

# DO NOT OVERLOAD: DRIVING ON ANY OVERLOADED TIRE IS DANGEROUS

The maximum load rating of your tires is molded on the tire sidewall. Do not exceed this rating. Follow the loading instructions of the manufacturer of your vehicle and this will ensure that your tires are not overloaded. Tires which are loaded beyond their maximum allowable loads for the particular application will build up excessive heat that may result in sudden tire destruction. Do not exceed the gross axle weight rating for any axle on your vehicle.

#### TIRE ALTERATIONS

Do not make or allow to be made any alterations on your tires. Alterations may prevent proper performance, leading to tire damage which can result in an accident. Tires which become unserviceable due to alterations such as truing, whitewall inlays, addition of balancing or sealant liquids, or the use of tire dressing containing petroleum distillates are excluded from warranty coverage.

#### REPAIRS - WHEREVER POSSIBLE, SEE YOUR TIRE RETAILER AT ONCE

If any tire sustains a puncture, have the tire demounted and thoroughly inspected by a tire retailer for possible damage that may have occurred. A tread area puncture in any passenger or light truck tire can be repaired provided that the puncture hole is not more than 1/4" in diameter, not more than one radial cable per casing ply is damaged, and the tire has not been damaged further by the puncturing object or by running underinflated. Tire punctures consistent with these guidelines should only be repaired by following the US Tire Manufacturers Association (USTMA) recommended repair procedures. Plug-only repairs done on-the-wheel are considered improper and therefore, not recommended. Such repairs are not reliable and may cause further damage to the tire.

#### **STORAGE**

Tires contain waxes and emollients to protect their outer surfaces from ozone and weather checking. As the tire rolls and flexes, the waxes and emollients continually migrate to the surface, replenishing this protection throughout the normal use of the tire. Consequently, when tires sit unused for long periods of time (a month or more) their surfaces

become dry and more susceptible to ozone and weather checking and the casing becomes susceptible to flat spotting. **For** this reason, tires should always be stored in a cool, dry, clean, indoor environment. If storage is for one month or more, eliminate the weight from the tires by raising the vehicle or by removing the tires from the vehicle. Failure to store tires in accordance with these instructions could result in damage to your tires or premature aging of the tires and sudden tire failure.

When tires are stored, be sure they are placed away from sources of heat and ozone such as direct sunlight, hot pipes and electric generators. Be sure that surfaces on which tires are stored are clean and free from grease, gasoline or other substances, which could deteriorate the rubber. Failure to store tires in accordance with these instructions could result in damage to your tires or premature aging of the tires and sudden tire failure.

# FOLLOW THESE MOUNTING RECOMMENDATIONS

Tire changing can be dangerous and must be done by professionally trained persons using proper tools and procedures as specified by the US Tire Manufacturers Association (USTMA). Single or dual assemblies must be completely deflated before demounting.

Your tires should be mounted on wheels of correct size and type and which are in good, clean condition. Wheels that are bent, chipped, rusted (steel wheels) or corroded (alloy wheels) may cause tire damage. The inside of the tire must be free from foreign material. Have your retailer check the wheels before mounting new tires. Mismatched tires and rims can explode during mounting. Also, mismatched tires and rims can result in dangerous tire failure on the road. If a tire is mounted by error on the wrong-sized rim, do not remount it on the proper rim scrap it. It may have been damaged internally (which is not externally visible) by having been dangerously stretched and could fail on the highway.

Old valves may leak. When new tubeless tires are mounted, have new valves of the correct type installed. Tubeless tires must only be mounted on wheels designed for tubeless tires i.e., wheels which have safety humps or ledges.

It is recommended that you have your tires and wheels balanced. Tires and wheels, which are not balanced, may cause steering difficulties, a bumpy ride, and irregular tire wear.

Be sure that all your valves have suitable valve caps. The valve cap is the primary seal against air loss.

#### **TEMPORARY SPARE TIRES**

When using any temporary spare tire, be sure to follow the vehicle manufacturer's instructions.

# REMEMBER... TO AVOID DAMAGE TO YOUR TIRES AND POSSIBLE ACCIDENT:

- CHECK TIRE PRESSURE AT LEAST ONCE EACH MONTH WHEN TIRES ARE COLD AND BEFORE LONG TRIPS.
- DO NOT UNDERINFLATE/OVERINFLATE.
- DO NOT OVERLOAD.
- DRIVE AT MODERATE SPEEDS, OBSERVE LEGAL LIMITS.

- AVOID DRIVING OVER POTHOLES, OBSTACLES, CURBS OR EDGES OF PAVEMENT.
- AVOID EXCESSIVE WHEEL SPINNING.
- IF YOU SEE ANY DAMAGE TO A TIRE, REPLACE WITH THE SPARE AND VISIT ANY AUTHORIZED RETAILER AT ONCE.
- IF YOU HAVE ANY QUESTIONS, CONTACT YOUR AUTHORIZED RETAILER.

#### **Highway Hazards**

No matter how carefully you drive, there is always the possibility that you could eventually have a flat tire on the highway. Drive slowly to the closest safe area out of traffic. This could further damage the flat tire, but your safety is more important.

If you feel a sudden vibration or ride disturbance while driving, or you suspect your tire or vehicle has been damaged, immediately reduce your speed. Drive with caution until you can safely pull off the road. Stop and inspect the tires for damage. If a tire is under-inflated or damaged. deflate it, remove the wheel and replace it with your spare tire and wheel. If you cannot detect a cause, have the vehicle towed to the nearest repair facility or tire dealer to have the vehicle inspected.

#### **Tire and Wheel Alignment**

A bad jolt from hitting a curb or pothole can cause the front end of your vehicle to become misaligned or cause damage to your tires. If your vehicle seems to pull to one side when you are driving, the wheels could be out of alignment. Have an authorized dealer check the wheel alignment periodically.

Wheel misalignment in the front or the rear can cause uneven and rapid treadwear of your tires and should be corrected by an authorized dealer.

# INSPECTING THE WHEEL VALVE STEMS

Check the valve stems for holes, cracks, or cuts that could permit air leakage.

#### TIRE ROTATION

warning: If the tire label shows different tire pressures for the front and rear tires and the vehicle has a tire pressure monitoring system, then you need to update the settings for the system sensors. Always

perform the system reset procedure after tire rotation. If you do not reset the system, it may not provide a low tire pressure warning when necessary.

Rotating your tires at the recommended interval helps your tires wear more evenly, providing better tire performance and longer tire life.

**Note:** If your tires show any uneven wear have the alignment checked by an authorized dealer before rotating tires.

**Note:** If you have a dissimilar spare wheel and tire assembly, it is intended for temporary use only and should not be used in a tire rotation.

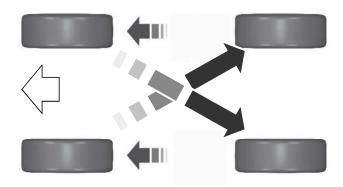
**Note:** After having your tires rotated check and adjust inflation pressure to the vehicle requirements.

## **Tire Rotation Diagram**

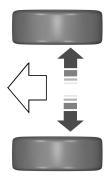
Follow the diagram indicating the correct tire locations for rotating the tires.

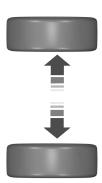
Rear-wheel drive vehicles (front tires on the left side of the diagram).

#### Non-directional tires



# Vehicles equipped with different size tires on the front and rear axle





# WHAT IS THE TIRE SEALANT AND INFLATOR KIT

The kit consists of an air compressor to re-inflate the tire and a canister of sealing compound that effectively seals most punctures. This kit provides a temporary tire repair allowing you to drive your vehicle up to 120 mi (200 km) at a maximum speed of 50 mph (80 km/h) to reach a tire service location.

**Note:** The temporary mobility kit contains enough sealant compound in the canister for one tire repair only. See an authorized dealer for replacement sealant canisters.

The temporary mobility kit contains enough sealant compound in the canister for one tire repair only.

After using the sealant, an authorized dealer needs to replace the tire pressure monitoring system sensor and valve stem on the wheel.

# LOCATING THE TIRE SEALANT AND INFLATOR KIT

The kit is located under the load floor in the rear of the vehicle.

# TIRESEALANT AND INFLATOR KIT PRECAUTIONS

**WARNING:** Depending on the type and extent of tire damage, some tires can only be partially sealed or not sealed at all. Loss of tire pressure can affect vehicle handling, leading to loss of vehicle control.

**WARNING:** Do not use the kit on a previously damaged tire, for example when it has been driven under inflated. This could cause loss of vehicle control, personal injury or death.

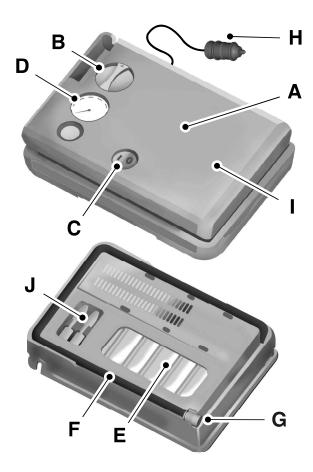
**WARNING:** Do not run the engine when operating the air compressor unless the vehicle is outdoors or in a well-ventilated area.

Do not attempt to repair punctures larger than 0.24 in (6 mm) or damage to the tire's sidewall.

Only punctures located within the tire tread can be sealed with the kit.

Only use the kit supplied with your vehicle.

# TIRESEALANT AND INFLATOR KIT COMPONENTS



- A Air compressor (inside)
- B Selector switch
- C On and Off button
- D Air pressure gauge
- E Sealant bottle and canister
- F Dual purpose hose: air and repair
- G Tire valve connector
- H Accessory power plug
- I Casing/housing
- J Bike/raft/sports ball adapters

# USING THE TIRE SEALANT AND INFLATOR KIT

#### Tips for use of the kit

To make sure the kit operates safely and properly, observe the following:

- Before operating the kit, make sure your vehicle is safely off the road and away from moving traffic.
- Do not remove any foreign objects, such as nails or screws, from the tire.
- Do not allow the compressor to operate continuously for more than 15 minutes. This prevents the compressor from overheating.
- Only use the kit when the ambient temperature is between -22°F (-30°C) and 158°F (70°C).
- Only use the sealing compound before the use-by date. The use-by date is on a label on the sealant canister and can be seen through the rectangular viewing window on the bottom of the compressor. Check the use-by date regularly and replace the canister when the sealant expires.

**Note:** Sealant compound contains latex. Use appropriate precautions to avoid any allergic reactions.



Place the selector in the Air position when inflating a tire or other objects.

## What to do when a tire is punctured

A tire puncture within the tire's tread area can be repaired in two stages with the kit.

- In the first stage, the tire is reinflated with a sealing compound and air. After the tire has been inflated, drive the vehicle a short distance approximately 4 mi (6 km) to distribute the sealant in the tire.
- In the second stage, check the tire pressure and adjust, if necessary, to the vehicle's specified tire inflation pressure.

# First Stage: Reinflating the Tire with sealing compound and air

**WARNING:** Do not stand directly over the kit while inflating the tire. If you notice any unusual bulges or deformations in the tire's sidewall during inflation, stop and call roadside assistance.

**WARNING:** If the tire does not inflate to the recommended tire pressure within 15 minutes, stop and call roadside assistance.

Park the vehicle in a safe, level and secure area, away from moving traffic.

Turn the hazard lights on. Apply the parking brake and power off the vehicle. Inspect the flat tire for visible damage.

If a puncture is located in the tire sidewall, stop and call roadside assistance.

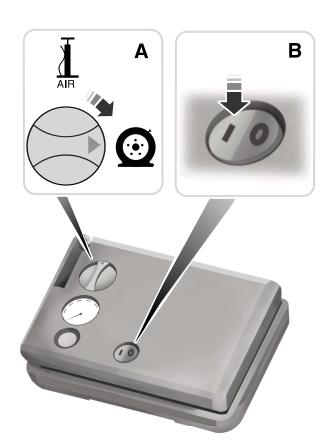
- 1. Remove the valve cap from the tire valve.
- 2. Unwrap the dual purpose hose (black tube) from the back of the compressor housing.
- 3. Fasten the hose to the tire valve by turning the connector clockwise. Tighten the connection securely.







- 4. Plug the power cable into the 12-volt power point in the vehicle.
- 5. Remove the warning sticker found on the casing/housing and place it on the top of the instrument panel or the center of the dash.





- 6. Turn dial (A) clockwise to the sealant position. Turn the kit on by pressing the on/off button (B).
- 7. Inflate the tire to the pressure listed on the tire label located on the driver door or the door jamb area. Check the final tire pressure with the compressor turned off to get an accurate pressure reading.
- 8. When the recommended tire pressure is reached, turn off the kit, unplug the power cable, and disconnect the hose from the tire valve. Re-install the valve cap on the tire valve and return the kit to the rear of the vehicle.
- 9. Drive the vehicle 4 mi (6 km) to distribute the sealant evenly inside the tire.

**Note:** If you experience any unusual vibration, ride disturbance or noise while driving, reduce your speed until you can safely pull off to the side of the road to call for roadside assistance. Do not proceed to the second stage of this operation.

# Second Stage: Checking the tire pressure with the inflator kit

**WARNING:** If the tire does not inflate to the recommended tire pressure within 15 minutes, stop and call roadside assistance.

**WARNING:** The power plug may get hot after use and should be handled carefully when unplugging.

Check the air pressure of your tires as follows:



- 1. Remove the valve cap from the tire valve.
- 2. Firmly screw the air compressor hose onto the valve stem by turning clockwise.
- 3. Push and turn the dial clockwise to the air position.
- 4. If required, turn on the compressor and adjust the tire to the recommended inflation pressure.
- 5. Unplug the hoses, re-install the valve cap on the tire and return the kit to the rear of the vehicle.

## What to do after the tire has been sealed

After using the kit to seal your tire, replace the sealant canister. Sealant canisters and spare parts can be obtained at an authorized dealer. Empty sealant canisters may be disposed of at home. However, canisters still containing liquid sealant should be disposed of in accordance with local waste disposal regulation.

## Removal of the sealant canister from the kit



1. Unwrap the dual purpose hose (black tube) from the compressor housing.



2. Unwrap the power cord.



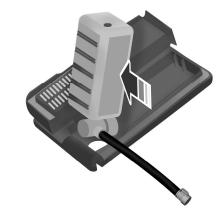
3. Remove the back cover.



4. Rotate the sealant canister up 90 degrees and pull away from casing/housing to remove.

# Installation of the sealant canister to the kit

- 1. With the canister held perpendicular to the housing, insert the canister nozzle into the connector and push until seated.
- 2. Rotate the canister 90 degrees down into the housing/casing.



3. Snap the back cover back into place.



4. Wrap the dual purpose hose (black tube) around the channel on the bottom of the housing/casing.



5. Wrap the power cord around the housing and stow the accessory power plug.

## **Tire Pressure Monitoring System**

# WHAT IS THE TIRE PRESSURE MONITORING SYSTEM



The tire pressure monitoring system measures the vehicle's tire pressures. A warning lamp

illuminates if one or more tires are significantly underinflated or if there is a system malfunction.

# TIRE PRESSURE MONITORING SYSTEM OVERVIEW

**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!

warning: To determine the required pressure(s) for your vehicle, see the Safety Compliance Certification Label (on the door hinge pillar, door-latch post or the door edge that meets the door-latch post, next to the driver seat) or the Tire Label on the B-Pillar or the edge of the driver door.

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**

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.

**WARNING:** Changes or modifications not expressively 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.

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

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

# TIRE PRESSURE MONITORING SYSTEM PRECAUTIONS

warning: The tire pressure monitoring system is not a substitute for manually checking tire pressures. You should periodically check tire pressures using a pressure gauge. Failure to correctly maintain tire pressures could increase the risk of tire failure, loss of control, vehicle rollover and personal injury.

**WARNING:** Do not use the tire pressure displayed in the information display as a tire pressure gauge. Failure to follow this instruction could result in personal injury or death.

**Note:** The use of tire sealants can damage the tire pressure monitoring system.

**Note:** If the tire pressure monitor sensor becomes damaged it may not function.

# TIRE PRESSURE MONITORING SYSTEM LIMITATIONS

When the outside temperature drops significantly, the tire pressure could decrease and activate the low tire pressure warning lamp.

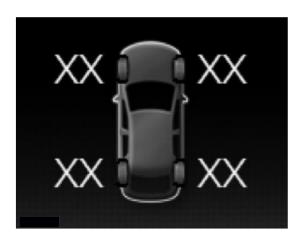
The warning lamp could also illuminate when you use a spare wheel, or tire sealant from the inflator kit.

**Note:** Regularly checking the vehicle tire pressures can reduce the possibility for the warning lamp to illuminate due to outside air temperature changes.

**Note:** After you inflate the tires to the recommended pressure it could take up to two minutes of driving over 20 mph (32 km/h) for the warning indicator to turn off.

#### **Tire Pressure Monitoring System**

### VIEWING THE TIRE PRESSURES



To view the current tire pressures, use the information display or touchscreen.

#### TIRE PRESSURE MONITORING SYSTEM — TROUBLESHOOTING

### TIRE PRESSURE MONITORING SYSTEM — WARNING LAMPS



The low tire pressure warning lamp has combined functions, as it warns you when your tires

need air, and when the system is no longer capable of functioning as intended.

Warning Lamp	Possible Cause	Action Required
Solid warning lamp	One or more tires are significantly under inflated	After inflating your tires to the manufacturer's recommended pressure as shown on the tire label, on the edge of driver door or the B-pillar, drive your vehicle for at least two minutes over 20 mph (32 km/h) before the light turns off.
Solid warning lamp or flashing warning lamp	Temporary spare wheel in use	Repair the damaged road wheel and tire and refit it to your vehicle to restore operation of the system.
	Tire pressure monitoring system malfunction	If the tires are inflated to the recommended tire pressures and the temporary spare wheel is not in use, the system detected a fault that requires service. Have your vehicle checked as soon as possible.

### **Tire Pressure Monitoring System**

#### TIRE PRESSURE MONITORING SYSTEM - INFORMATION MESSAGES

Message	Action
Tire Pressure Low	After inflating your tires to the manufacturer's recommended pressure as shown on the tire label, on the edge of the driver door or the B-pillar, drive your vehicle for at least two minutes over 20 mph (32 km/h) before the light turns off.
Tire Pressure Monitor Fault	The system has detected a fault that requires service. Have your vehicle checked as soon as possible.
Tire Pressure Sensor Fault	The system has detected a fault that requires service or a spare tire is in use. Have your vehicle checked as soon as possible.

#### CHANGING A FLAT TIRE (IF

#### **EQUIPPED)**

If you get a flat tire while driving, do not apply the brake heavily. Gradually decrease your speed and 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 to prevent damage to the tire pressure monitoring system sensors. See **Tire Pressure Monitoring System Overview** (page 353). Replace the spare tire with a road tire as soon as possible. During repairing or replacing the flat tire, have an authorized dealer inspect the tire pressure monitoring system sensor for damage.

**Note:** Only use tire sealants in roadside emergencies as they may damage the tire pressure monitoring system sensor. If you use a sealant, use the Tire Mobility Kit sealant. Replace the tire pressure monitoring system sensor and valve stem on the wheel by an authorized dealer after use of the sealant.

**Note:** The tire pressure monitoring system indicator illuminates when the spare tire is in use. To restore the full functionality of the monitoring system, all road wheels with tire pressure monitoring sensors must be mounted on the vehicle.

### 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, 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 on your vehicle. If the dissimilar spare tire or wheel is damaged, replace it instead of repairing it.

A dissimilar spare wheel and tire assembly is defined as a spare wheel and tire assembly that is different in brand, size or appearance from the road tires and wheels and can be one of three types:

- 1. **T-type mini-spare:** This spare tire begins with the letter T for tire size and could 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 the 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.

Using a dissimilar spare wheel and tire assembly can compromise the effectiveness 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, if applicable.

### 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.

Using a full-size dissimilar spare wheel and tire assembly can compromise the effectiveness of the following:

- Handling, stability and braking performance.
- Comfort and noise.
- Ground clearance and parking at curbs.
- Winter weather driving capability.
- Wet weather driving capability.
- All-wheel driving capability.

When driving with the full-size dissimilar spare wheel and tire assembly additional caution should be given to:

- Towing a trailer.
- Driving vehicles equipped with a camper body.
- Driving vehicles with a load on the cargo rack.

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

#### Tire Change Procedure

**WARNING:** The jack supplied with this vehicle is only intended for changing a flat tire in an emergency. Do not attempt to do any other work on your vehicle when it is supported by the jack, as your vehicle could slip off the jack. Failure to follow this instruction could result in personal injury or death.

warning: To help prevent your vehicle from moving when changing a wheel, shift the transmission into park (P), set the parking brake and use an appropriate block or wheel chock to secure the wheel diagonally opposite to the wheel being changed. For example, when changing the front left wheel, place an appropriate block or wheel chock on the right rear wheel.

**WARNING:** Never place anything between the vehicle jack and your vehicle.

**WARNING:** Never place anything between the vehicle jack and the ground.

**WARNING:** Do not attempt to change a tire on the side of the vehicle close to moving traffic. Pull far enough off the road to not obstruct the flow of traffic and avoid the danger of being hit when operating the jack or changing the wheel.

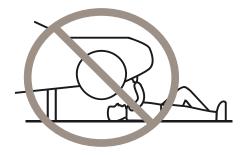
**WARNING:** Do not get under a vehicle that is supported by a jack.

**WARNING:** Only use the specified jacking points. If you use any other locations you could damage vehicle components, such as brake lines.

**WARNING:** Only use the jack provided as original equipment with your vehicle.

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

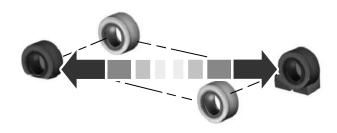
**WARNING:** Make sure there is no grease or oil on the threads or the surface between the wheel studs and the wheel nuts. This can cause the wheel nuts to loosen while driving.



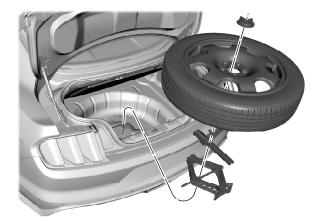
**Note:** The jack does not require maintenance or additional lubrication over the service life of your vehicle.

**Note:** Passengers should not remain in your vehicle when the vehicle is being jacked.

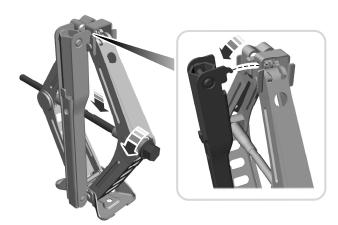
- 1. Park on a level surface, set the parking brake and activate the hazard flashers.
- 2. Place the transmission in park (P) and turn the engine off. For vehicles with a manual transmission, place the transmission in reverse (R) after the engine is turned off.



3. Block the wheels diagonally opposite the flat tire. For example, if the left front tire is flat, block the right rear wheel.



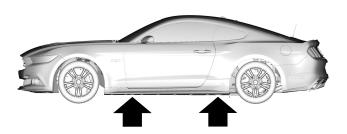
- 4. Open the luggage compartment and lift the access panel
- 5. Remove the lug wrench, spare tire and iack.
- 6. Remove the center ornament from the wheel if required to access the lug nuts.



- 7. To remove the wrench from the jack, turn the hex nut on the jack counterclockwise. This lowers the jack and loosen the mechanical lock.
- 8. Unfold the wrench.



9. Loosen each wheel nut one-half turn counterclockwise but do not remove them until the wheel is raised off the ground.

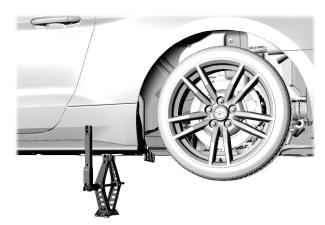


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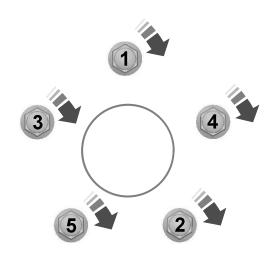
**Note:** Jack at the specified locations to avoid damage to the vehicle.

10. The vehicle jacking points are shown here, and can be identified by the triangle markings on the vehicle.

Details are depicted on the warning label on the jack.



- 11. Place the jack at the jacking point next to the tire you are changing. Turn the jack handle clockwise until the wheel is completely off the ground.
- 12. Remove the wheel nuts with the lug wrench.
- 13. Replace the flat tire with the spare tire, making sure the valve stem is facing outward.
- 14. Reinstall wheel nuts until the wheel is snug against the hub. Do not fully tighten the wheel nuts until the wheel has been lowered.
- 15. Lower the wheel by turning the jack handle counterclockwise.



- 16. Remove the jack and fully tighten the wheel nuts in the order shown. See **Wheel Nuts** (page 361).
- 17. To store the folded wrench on the jack, engage the bracket of the jack base on the wrench feature as shown. Swing the wrench upwards and adjust the height of the jack until the pin engages the hole. Tighten the hex nut clockwise by hand until secure.



- 18. Put the flat tire, wheel ornament, jack and lug wrench away. Make sure the jack is fastened so it does not rattle when you drive.
- 19. Unblock the wheel.

#### WHEEL NUTS

warning: When you install a wheel, remove any corrosion, dirt or foreign materials present on the mounting surfaces of the wheel or the surface of the wheel hub, brake drum or brake disc that contacts the wheel. Make sure to secure any fasteners that attach the rotor to the hub so they do not interfere with the mounting surfaces of the wheel. Installing wheels without following these steps can cause the wheel nuts to loosen and the wheel to come off while your vehicle is in motion, resulting in loss of vehicle control, personal injury or death.

Bolt Size	lb.ft (Nm)	
M14 x 1.5	150 lb.ft (204 Nm)	

<sup>&</sup>lt;sup>1</sup> Torque specifications are for nut and bolt threads free of dirt and rust. Use only our recommended replacement fasteners.

Retighten the lug nuts to the specified torque within 100 mi (160 km) after any wheel disturbance, such as tire rotation, changing a flat tire or wheel removal.



A Hub pilot bore.

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

#### ENGINE SPECIFICATIONS - 2.3L ECOBOOST™

Measurement	Specification
Engine Displacement.	138 in <sup>3</sup> (2,261 cm <sup>3</sup> )
Firing order.	1-3-4-2
Ignition system.	Coil on plug
Spark plug gap.	0.026 in (0.65 mm) - 0.030 in (0.75 mm)
Compression ratio.	10.634:1

#### **ENGINE SPECIFICATIONS - 5.0L**

Measurement	Specification
Engine displacement.	307 in <sup>3</sup> (5,038 cm <sup>3</sup> )
Firing order.	1-5-4-8-6-3-7-2
Ignition system.	Coil on plug
Spark plug gap.	0.049 in (1.25 mm) - 0.053 in (1.35 mm)
Compression ratio.	12.0:1

#### SUSPENSION SPECIFICATIONS

### Base Vehicle (Non-Performance Pack) Coupe and Convertible without Active Damping System

Front Alignment				
Caster Caster Left - Camber Camber Left - Total Toe				
7.1° (+/- 0.75°)	0.00 (+/- 0.750)	-1.0° (+/- 0.75°)	0.0° (+/-0.75°)	0.00° (+/- 0.20°)

Rear Alignment						
Camber Toe Left / Right Total Toe Thrust Angle						
-1.5° (+/- 0.75°)						

#### Performance Pack Convertible without Active Damping System

Front Alignment				
Caster	Caster Left - Right	Camber	Camber Left - Right	Total Toe
7.1° (+/- 0.75°)	0.00 (+/- 0.750)	-1.0° (+/- 0.75°)	0.0° (+/-0.75°)	0.00° (+/- 0.20°)

Rear Alignment						
Camber Toe Left / Right Total Toe Thrust Angle						
-1.5° (+/- 0.75°)						

#### Performance Pack Coupe without Active Damping System

Front Alignment					
Caster Caster Left - Camber Camber Left - Total Toe					
7.0° (+/- 0.75°)	0.00 (+/- 0.750)	-1.0° (+/- 0.75°)	0.0° (+/-0.75°)	0.00° (+/- 0.20°)	

Rear Alignment					
Camber Toe Left / Right Total Toe Thrust Angle					
-1.5° (+/- 0.75°)					

#### Performance Pack Coupe and convertible with Active Damping System

Front Alignment				
Caster Caster Left - Camber Camber Left - Total Toe				
7.1° (+/- 0.75°)	0.0° (+/- 0.75°)	-1.0° (+/- 0.75°)	0.0° (+/-0.75°)	0.00° (+/- 0.20°)

Rear Alignment				
Camber Toe Left / Right Total Toe Thrust Angle				
- 1.5° (+/- 0.75°)				

#### Feature Car Coupe and Convertible with Handling Package

		Front Alignment		
Caster	Caster Left - Right	Camber	Camber Left - Right	Total Toe
7.10 (+/- 0.750)	0.0° (+/- 0.75°)	-1.2° (+/- 0.75°)	0.0° (+/-0.75°)	0.10° (+/- 0.20°)

Rear Alignment			
Camber Toe Left / Right Total Toe Thrust Angle			
-1.2° (+/- 0.75°)			

#### MOTORCRAFT PARTS - 2.3L ECOBOOST™

Component	Part Number
Air filter element.	FA-2067
Battery.	BAGM-48H6-760
Cabin air filter.	FP-78
Oil filter.¹	FL-2127
Spark plugs.	SP-597-X
Windshield wiper blade.	WW-1964-A (passenger side) WW-2160-A (driver side)

<sup>&</sup>lt;sup>1</sup> If a Motorcraft oil filter is not available, use an oil filter that aligns to SAE/USCAR – 36 Performance Specifications. Filter Type B.

We recommend Motorcraft parts that are available at your authorized dealer or at www.fordparts.com. We engineer these parts for your vehicle to meet or exceed our specifications. Use of other parts could impact vehicle performance, emissions and durability. Your warranty could be void for any damage related to use of other parts.

#### **MOTORCRAFT PARTS - 5.0L**

Component	Part Number
Air filter element.	FA-2066
Battery.	BAGM-48H6-760
Cabin air filter.	FP-78
Oil filter.	FL-500-S
Spark plugs.	SP-589
Windshield wiper blade.	WW-1964-A (passenger side) WW-2160-A (driver side)

<sup>&</sup>lt;sup>1</sup> If a Motorcraft oil filter is not available, use an oil filter that aligns to SAE/USCAR – 36 Performance Specifications. Filter Type C.

We recommend Motorcraft parts that are available at your authorized dealer or at www.fordparts.com. We engineer these parts for your vehicle to meet or exceed our specifications. Use of other parts could impact vehicle performance, emissions and durability. Your warranty could be void for any damage related to use of other parts.

# ENGINE OIL CAPACITY AND SPECIFICATION - 2.3L ECOBOOST™

Use oil that meets the defined specification and viscosity grade.

If you do not use oil that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.
- Increased emission levels.
- Reduced vehicle performance.
- Reduced fuel economy.



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

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that display the API Certification Mark for gasoline engines.

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

#### **Capacities**

Variant	Including the Oil Filter
All.	6.0 qt (5.7 L)

When tracking your vehicle, oil change information and intervals are in the Track Use chapter. See **Track Use** (page 313).

#### **Materials**

Name	Specification
Motorcraft® SAE 5W-30 Motor Oil(U.S.) Motorcraft® SAE 5W-30 Motor Oil / Huile moteur SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP, XO-5W30-Q1FS(U.S.) CXO-5W30-LSP6, CXO-5W30-LFS6(Canada)	WSS-M2C961-A1

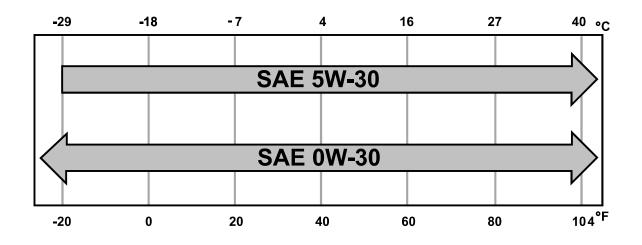
#### Alternative Engine Oil for Extremely Cold Climates

To improve engine cold start performance,

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

#### **Materials**

Name	Specification
Engine Oil - SAE 0W-30	WSS-M2C963-A1



**Note:** If you use your vehicle regularly above the altitude of 5,000 ft (1,524 m) and under the temperature of -4.0°F (-20°C), it is recommended to use the alternative engine oil.

ENGINE OIL CAPACITY AND SPECIFICATION - 5.0L

Use oil that meets the defined specification and viscosity grade.

If you do not use oil that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Longer engine cranking periods.
- Increased emission levels.

- Reduced vehicle performance.
- Reduced fuel economy.



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

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that display the API Certification Mark for gasoline

engines.

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

#### **Capacities**

Variant	Including the Oil Filter
5.0L	10.0 qt (9.5 L)

#### **Materials**

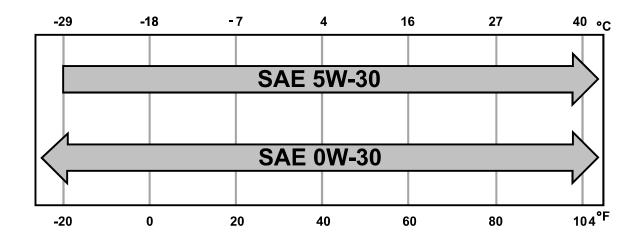
Name	Specification
Motorcraft® SAE 5W-30 Motor Oil(U.S.) Motorcraft® SAE 5W-30 Motor Oil / Huile moteur SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP, XO-5W30-Q1FS(U.S.) CXO-5W30-LSP6, CXO-5W30-LFS6(Canada)	WSS-M2C961-A1

### Alternative Engine Oil for Extremely Cold Climates

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

#### **Materials**

Name	Specification
Engine Oil - SAE 0W-30	WSS-M2C963-A1



**Note:** If you use your vehicle regularly above the altitude of 7,500 ft (2,286 m) and under the temperature of -4.0°F (-20°C), it is recommended to use the alternative engine oil.

• Reduced

If you do not use coolant that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

#### COOLING SYSTEM CAPACITY AND SPECIFICATION - 2.3L ECOBOOST™

Use coolant that meets the defined specification.

#### **Capacities**

Variant	Quantity
Base vehicle.	10.46 qt (9.9 L)
Performance vehicle.	10.99 qt (10.4 L)

#### **Materials**

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant/Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

# COOLING SYSTEM CAPACITY AND SPECIFICATION - 5.0L

Use coolant that meets the defined specification.

If you do not use coolant that meets the defined specification, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

#### **Capacities**

Variant	Quantity
Base vehicle with automatic transmission.	12.3 qt (11.6 L)
Performance vehicle with automatic transmission.	12.8 qt (12.1 L)
Manual transmission.	11.7 qt (11.1 L)

#### **Materials**

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant/Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

#### FUEL TANK CAPACITY - 2.3L ECOBOOST™

#### **Capacities**

Variant	Quantity
All.	15.9 gal (60.2 L)

#### **FUEL TANK CAPACITY - 5.0L**

#### **Capacities**

Variant	Quantity
All	15.98 gal (60.5 L)

# AIR CONDITIONING SYSTEM CAPACITY AND SPECIFICATION - 2.3L ECOBOOST™

**WARNING:** The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening

the air conditioning refrigerant system can cause personal injury.

Use refrigerant and oil that meets the defined specifications.

If you do not use refrigerant and oil that meets the defined specifications, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

#### **Capacities**

Variant	Refrigerant	Refrigerant Oil
All.	19 oz (0.538 kg)	3.38 fl oz (100 ml)

#### **Materials**

Name	Specification
R-1234yf Refrigerant (U.S.) R-1234yf Refrigerant / Frigorigène R-1234yf (Canada) YN-33-A(U.S.) HS7Z-19B519-BA(Canada)	WSS-M17B21-A
Motorcraft® R-1234yf Refrigerant PAG Oil (U.S.) Motorcraft® R-1234yf Refrigerant PAG Oil / Huile PAG pour frigorigène R-1234yf Motorcraft® (Canada) YN-35(U.S. & Canada)	WSS-M2C300-A2

# AIR CONDITIONING SYSTEM CAPACITY AND SPECIFICATION - 5.0L

**WARNING:** The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening

the air conditioning refrigerant system can cause personal injury.

Use refrigerant and oil that meets the defined specifications.

If you do not use refrigerant and oil that meets the defined specifications, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

#### **Capacities**

Variant	Refrigerant	Refrigerant Oil
All.	19 oz (0.538 kg)	3.38 fl oz (100 ml)

#### **Materials**

Name	Specification
R-1234yf Refrigerant (U.S.) R-1234yf Refrigerant / Frigorigène R-1234yf (Canada) YN-33-A(U.S.) HS7Z-19B519-BA(Canada)	WSS-M17B21-A
Motorcraft® R-1234yf Refrigerant PAG Oil(U.S.) Motorcraft® R-1234yf Refrigerant PAG Oil / Huile PAG pour frigorigène R-1234yf Motorcraft®(Canada) YN-35(U.S. & Canada)	WSS-M2C300-A2

#### WASHER FLUID SPECIFICATION

#### **Capacities**

Variant	Quantity
All.	Fill as required.

#### **Materials**

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant(U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft®(Canada) ZC-32-B2(U.S.) CXC-37-F/M(Canada)	WSS-M14P19-A

#### MANUAL TRANSMISSION FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.
- Reduced fuel economy.

#### **Capacities**

Variant	Quantity
6-Speed	2.5 qt (2.4 L) <sup>1</sup>

<sup>&</sup>lt;sup>1</sup>Approximate total oil volume/capacity. Actual amount could vary between fluid changes.

**Note:** Transmission Oil is "filled-for-life" — No requirement to Service the transmission oil.

#### **Materials**

Name	Specification
Motorcraft® Dual Clutch Transmission Fluid(U.S.) Motorcraft® Dual Clutch Transmission Fluid / Huile pour boîtes embrayage double Motor- craft®(Canada) XT-11-QDC(U.S. & Canada)	WSS-M2C200-D2

# CLUTCH FLUID CAPACITY AND SPECIFICATION

Only use fluid that meets Ford specifications.

#### **Materials**

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

#### AUTOMATIC TRANSMISSION FLUID CAPACITY AND SPECIFICATION

**Note:** Only use transmission fluid that conforms to the defined specification. Use of other fluids could result in vehicle damage not covered by the vehicle warranty.

Variant	Quantity
All	13.10 qt (12.4 L)

#### **Materials**

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft®(Canada) XT-12-QULV(U.S. & Canada)	WSS-M2C949-A,

#### **BRAKE FLUID SPECIFICATION**

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced brake performance.

**Note:** We recommend you use Dot 4 Low Viscosity (LV) High Performance Brake Fluid meeting WSS-M6C65-A2 specifications or ISO 4925 Class 6 standards. If you use any fluid other than the recommended fluid, it could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum

Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

#### **Capacities**

Variant	Quantity
All.	Fill as required.

#### **Materials**

Name	Specification
Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid(U.S.) Motorcraft® DOT 4 LV High Performance Motor Vehicle Brake Fluid / Liquide de frein automobile haute performance DOT 4 LV Motorcraft®(Canada) PM-20(U.S. & Canada)	WSS-M6C65-A2

### REAR AXLE FLUID CAPACITY AND SPECIFICATION

Use fluid that meets the defined specification and viscosity grade.

If you do not use fluid that meets the defined specification and viscosity grade, it could result in:

- Component damage that your vehicle warranty does not cover.
- Reduced vehicle performance.

#### **Capacities**

Variant	Quantity
All.	1.6 qt (1.5 L)

<sup>&</sup>lt;sup>1</sup> For complete refill of our limited slip axles, add 3.28 fl oz (97 ml) of Additive Friction Modifier XL-3 or equivalent meeting specification EST-M2C118-A. Include this friction modifier in the total fluid capacity. Our rear axles contain a synthetic lubricant that does not require changing unless you submerge the axle in water.

#### **Materials**

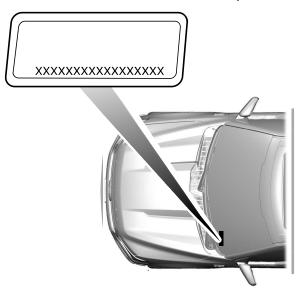
Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant(U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoïdes SAE 75W-85 Motorcraft®(Canada) XY-75W85-QL(U.S. & Canada)	WSS-M2C942-A
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S. & Canada)	EST-M2C118-A

#### **Vehicle Identification**

### VEHICLE IDENTIFICATION NUMBER

### LOCATING THE VEHICLE IDENTIFICATION NUMBER

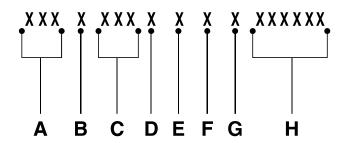
The vehicle identification number is on the left-hand side of the instrument panel.



**Note:** In the illustration, XXXX is representative of your vehicle identification number.

### VEHICLE IDENTIFICATION NUMBER OVERVIEW

The vehicle identification number contains the following information:



- 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 or motor type.
- E Check digit.
- F Model year.
- G Assembly plant.
- H Production sequence number.

#### **Connected Vehicle**

### WHAT IS A CONNECTED VEHICLE

A connected vehicle has technology that allows your vehicle to connect to a mobile network and for you to access a range of features. When used in conjunction with the FordPass app, it could allow you to monitor and control your vehicle further, for example checking the tire pressures, the fuel level and the vehicle location. For additional information, refer to the local Ford website.

# CONNECTED VEHICLE REQUIREMENTS

Connected service and related feature functionality requires a compatible vehicle network.

Some remote features require additional service activation. Log in to your Ford account for details. Some restrictions, third party terms and message or data rates may apply.

### CONNECTED VEHICLE LIMITATIONS

Evolving technology, cellular networks, or regulations could affect functionality and availability, or continued provision of some features. These changes could even stop some features from functioning.

### CONNECTING THE VEHICLE TO A MOBILE NETWORK

#### WHAT IS THE MODEM



The modem allows access to a range of features built into your vehicle.

### ENABLING AND DISABLING THE MODEM

- Press Settings on the touchscreen.
- 2. Press **Connectivity**.
- 3. Press Connected Vehicle Features.
- 4. Switch vehicle connectivity on or off.

### CONNECTING FORDPASS TO THE MODEM

- 1. Make sure that the modem is enabled using the vehicle settings menu.
- 2. Open the FordPass app on your device and log in.
- 3. Add your vehicle or select your vehicle if already added.
- Select the option to activate your vehicle.
- 5. Make sure that the name on the screen matches the name shown in your FordPass account.
- 6. Confirm that FordPass account is connected to the modem.

### CONNECTING THE VEHICLE TO A WI-FI NETWORK

- Press the button on the touchscreen.
- 2. Press **Connectivity**.
- Press Wi-Fi.
- 4. Switch Wi-Fi on.
- 5. Press View Available Networks.
- 6. Select an available Wi-Fi network.

**Note:** Enter the network password to connect to a secure network.

#### **Connected Vehicle**

### CONNECTED VEHICLE — TROUBLESHOOTING

#### CONNECTED VEHICLE — FREQUENTLY ASKEDQUESTIONS - VEHICLES WITH: MODEM

# Why can I not confirm the connection of my FordPass account to the modem?

- The modem is not enabled. Switch vehicle connectivity on.
- The network signal is weak. Move your vehicle closer to a place where the network signal is not obstructed.

#### CONNECTED VEHICLE — FREQUENTLY ASKEDQUESTIONS - VEHICLES WITH: SYNC 4

# Why can I not confirm the connection of my FordPass account to the modem?

- The modem is not enabled. Switch vehicle connectivity on.
- The network signal is weak. Move your vehicle closer to a place where the network signal is not obstructed.

### Why can I not connect to a Wi-Fi network?

- You entered the wrong network password. Enter the correct password.
- The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.
- There are multiple access points in range with the same network name. Choose a unique name for your network. Do not use the default name unless it contains a unique identifier, for example as part of the MAC address.

# Why does the Wi-Fi connection disconnect after successful connection?

 The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.

#### What can I do if I am close to a Wi-Fi router but the network signal strength is weak?

- If your vehicle has a heated windshield, position your vehicle so that the windshield is not facing the Wi-Fi router.
- If your vehicle has metallic tinting on the windows but not on the windshield, position your vehicle so that the windshield is facing the Wi-Fi router or open the windows that are facing the router.
- If your vehicle has metallic tinting on the windows and the windshield, open the windows that are facing the router.
- If your vehicle is in a garage and you have the garage door closed, open the garage door as it could block the signal.

#### **Connected Vehicle**

# Why can I not see a network I expect to see in the list of available networks?

- The network is hidden. Make the network visible and try again, or manually add a network in the Wi-Fi settings menu.
- Some network security types are not supported, for example WEP.

### Why do software downloads take too long?

- The network signal is weak. Move your vehicle closer to the Wi-Fi router or to a place where the network signal is not obstructed.
- Wi-Fi network is in high demand or has a slow Internet connection. Use a more reliable Wi-Fi network.

# Why does the software not update when the system seems to connect to a Wi-Fi network and the signal strength is excellent?

- No software update is available at this time.
- Select automatic updates option in the settings menu to enable automatic software update or contact an authorized dealer.
- There could be a connection problem.
   Test the network using another device.

#### **Vehicle Wi-Fi Hotspot**

### CREATING A VEHICLE WI-FI HOTSPOT

You can create a Wi-Fi hotspot in your vehicle and allow devices to connect to it for access to the Internet.



Select the settings option on the feature bar.

1. Press **Vehicle Hotspot**.

**Note:** The vehicle hotspot default setting is on.

- 2. Press **Settings**.
- 3. Press *Edit*.
- 4. Press **Hotspot visibility**.

**Note:** The hotspot visibility default setting is on.

### Finding the Wi-Fi Hotspot Name and Password



Select the settings option on the feature bar.

- 1. Press **Vehicle Hotspot**.
- 2. Press **Settings**.

**Note:** The network name is the hotspot name.

3. Press **View Password**.

### Connecting a Device to the Wi-Fi Hotspot

- On your device, switch Wi-Fi on and select the hotspot from the list of available Wi-Fi networks.
- 2. When prompted, enter the password.

#### **Purchasing a Data Plan**

1. Connect a device to the hotspot.

**Note:** The vehicle network carrier's portal opens on your device.

2. If the portal does not open on your device, open a website and it redirects to the vehicle network carrier's portal.

Note: Secure websites do not redirect.

3. Follow the instructions on the carrier portal to purchase a plan.

**Note:** If you have an active plan, the system does not redirect to the vehicle network carrier's portal when you connect a device. Visit the vehicle network carrier's website to purchase more data.

**Note:** If data usage information is available in the vehicle hotspot menu, it is approximate.

**Note:** If you carry out a factory reset, the system does not remove your vehicle from your vehicle network carrier's account. To remove your vehicle from the account, contact your vehicle network carrier.

**Note:** The vehicle network carrier provides Vehicle Hotspot services, subject to your vehicle network carrier agreement, coverage and availability.

#### CHANGING THE VEHICLE WI-FI HOTSPOT NAME OR PASSWORD



Select the settings option on the feature bar.

- 1. Press **Vehicle Hotspot**.
- 2. Press **Settings**.
- 3. Press **Edit**.
- 4. Press Change Network Name.
- 5. Enter your required network name.
- 6. Press Done.
- 7. Press **Change Password**.
- 8. Enter your required password.
- 9. Press **Done**.

#### **Vehicle Wi-Fi Hotspot**

### Changing the Wi-Fi Hotspot Frequency

**Note:** The vehicle hotspot frequency band is selectable depending upon your device capabilities. You will not be able to connect your device to the vehicle hotspot if it does not support the selected frequency band.



Select the settings option on the feature bar.

- 1. Press **Vehicle Hotspot**.
- 2. Press **Settings**.
- 3. Press **Edit**.
- 4. Select a frequency.

### VEHICLE WI-FI HOTSPOT — TROUBLESHOOTING

### VEHICLE WI-FI HOTSPOT — FREQUENTLY ASKED QUESTIONS

#### Why can I not see the Wi-Fi hotspot name when I search for Wi-Fi networks on my cell phone or other device?

- Make sure Wi-Fi hotspot visibility is on.
- The system does not provide a Wi-Fi hotspot at this time.
- Check what frequency the hotspot is transmitting in the vehicle hotspot settings menu. If the frequency is 5 GHz and your device cannot see the network, change the frequency to 2.4 GHz.

### AUDIO SYSTEM PRECAUTIONS

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.

Listening to loud audio for long periods of time could damage your hearing.

### SWITCHING THE AUDIO UNIT ON AND OFF



Press the button on the volume control.

### SELECTING THE AUDIO SOURCE

#### **Audio Unit**



Press to open the media source menu.

You can press this multiple times to change the audio source or scroll through the media sources.

#### **Touchscreen**

Press **Sources** on the touchscreen to open the media source menu.

### PLAYING OR PAUSING THE AUDIO SOURCE

#### **Audio Unit**



Press the button to pause playback. Press again to resume playback.

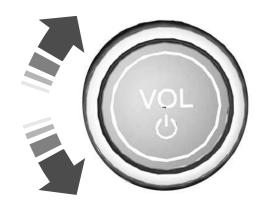
#### **Touchscreen**



Press the button to pause playback. Press again to resume playback.

**Note:** Not all sources can be paused.

#### ADJUSTING THE VOLUME



Turn to adjust the volume.

Some vehicles may be able to adjust the volume using buttons on the steering wheel.

### SWITCHING SHUFFLE MODE ON AND OFF



Press the button on the touchscreen to switch shuffle mode on or off.

**Note:** Not all sources have shuffle mode.

### SWITCHING REPEAT MODE ON AND OFF



Press the button on the touchscreen to switch repeat mode on or off.

**Note:** Not all sources have repeat mode.

#### SETTING A MEMORY PRESET

- 1. Select a station or channel.
- 2. Press and hold a memory preset button on the touchscreen.

**Note:** The audio mutes briefly while the system saves the preset and returns once it is stored.

**Note:** You can save presets from multiple sources to the memory preset bar.

#### **MUTING THE AUDIO**



Press to mute the signal. Press again to restore the signal.

### ADJUSTING THE SOUND SETTINGS

#### Balance and Fade (If Equipped)

- 1. Press **Settings** on the touchscreen.
- 2. Press **Sound Settings**.
- 3. Press **Balance / Fade**.

4. Press the arrows to adjust the settings.

#### **Tone Settings**

- 1. Press **Settings** on the touchscreen.
- 2. Press **Sound Settings**.
- Press Tone Settings.
- 4. Press the arrows or slider bar to adjust the settings.

#### **Speed Compensated Volume**

- 1. Press **Settings** on the touchscreen.
- 2. Press **Sound Settings**.
- 3. Press Speed Compensated Volume.
- 4. Press a setting.

#### Occupancy Mode (If Equipped)

- 1. Press **Settings** on the touchscreen.
- 2. Press **Sound Settings**.
- 3. Press **Occupancy Mode**.
- 4. Press a setting.

#### Sound Mode (If Equipped)

- 1. Press **Settings** on the touchscreen.
- 2. Press **Sound Settings**.
- 3. Press **Sound Mode**.
- 4. Press a setting.

### SETTING THE CLOCK AND DATE

- 1. Press **Settings** on the touchscreen.
- 2. Press **Clock Settings**.
- 3. Set the time.

**Note:** The **AM** and **PM** options are not available if **24-hour mode** is on.

### Switching Automatic Time Updates On and Off

- 1. Press **Settings** on the touchscreen.
- 2. Press Clock Settings.
- 3. Switch *Auto Time Update* on or off.

#### **FM RADIO**

#### **FM RADIO LIMITATIONS**

The further you travel from a FM station, the weaker the signal and the weaker the reception.

Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.

When you pass a ground-based broadcast repeating tower, a stronger signal may overtake a weaker one and result in the audio system muting.

### SELECTING AN FM RADIO STATION

### Manually Selecting a Radio Station



Press the button on the radio tuner to go up the frequency band.



Press the button on the radio tuner to go down the frequency band.

#### **Using Seek**



Press to seek the next station up the frequency band.



Press to seek the next station down the frequency band.

#### **Using the Station List**

- Press the search button on the radio screen.
- 2. Press a radio station from the list.

### SWITCHING THE DISPLAY ON AND OFF

#### **Audio Unit**



Press the button.

#### **Touchscreen**

To switch the display off:

- 1. Press **Settings** on the touchscreen.
- 2. Press Display Settings.
- 3. Press **Display Off**.

**Note:** The display defaults to on each time you switch your vehicle on.

To switch the display on, press anywhere on the touchscreen.

#### **DIGITAL RADIO**

#### WHAT IS DIGITAL RADIO

HD Radio<sup>™</sup> technology is the digital evolution of analog FM radio.

For additional information, visit <u>www.HDRadio.com</u>.

HD Radio Technology is manufactured under license from iBiquity Digital Corporation and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of XPERI. The vehicle manufacturer and XPERI 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.

#### **HOW DOES DIGITAL RADIO WORK**

Your system has a special receiver that allows it to receive digital broadcasts in addition to analog broadcasts.

HD1 signifies the main programming status and is available in both analog and digital broadcasts. Other multicast stations are only available digitally and could contain new or different content.

**Note:** When the system first receives an HD1 station, it plays the station in the analog version until it verifies the station is an HD Radio station. Then it shifts to the digital version.

**Note:** There is an audio mute delay when switching to an HD2 or HD3 station because the system has to reacquire and decode the digital signal.

#### DIGITAL RADIO LIMITATIONS

If you are outside the reception area, the system could not work.

If you are on the fringe of the reception area, the station could mute due to weak signal strength.

**Note:** If you are listening to HD1, the system changes back to the analog broadcast until the digital broadcast is available again. If you are listening to any other multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.

Depending on the station quality, you could hear a slight sound change when the station changes between analog and digital audio.

You cannot access a saved HD station if your vehicle is outside the station's reception area.

### SWITCHING DIGITAL RADIO RECEPTION ON AND OFF

- 1. Press **Settings** on the touchscreen.
- 2. Press *Radio Settings*.
- 3. Switch **HD Radio** on or off.

#### **DIGITAL RADIO INDICATORS**

#### **HD Radio Indicator**

The indicator appears when HD Radio is on and you tune to a station broadcasting HD Radio technology.



The color of the indicator changes to indicate the system status.

Gray indicates the system is acquiring a digital station.

Orange indicates digital audio is playing.

#### **Multicast Indicator**

The multicast indicator appears if the current station is broadcasting multiple digital broadcasts. The highlighted numbers indicate additional digital channels available.

**Note:** For stations that have more than one HD multicast, the HD indicator and radio text appears as a button. Press the button to cycle through all of the HD stations on that specific frequency.

#### **SATELLITE RADIO**

#### WHAT IS SATELLITE RADIO

Your factory-installed SiriusXM radio system includes a limited subscription term, which begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For additional information about extended subscription terms, visit <u>www.SiriusXM.com</u> in the United States, <u>www.SiriusXM.ca</u> in Canada, or call SiriusXM at 1-888-539-7474.

**Note:** Sirius XM 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. Neither Sirius XM and its affiliates nor Ford Motor Company and its affiliates will be liable to you or any third party for any such modification, suspension or termination.

#### SATELLITE RADIO LIMITATIONS

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. Placing luggage over the antenna may reduce performance. Factory-installed and aftermarket vehicle structures including, but not limited to, roof racks and soft top roofs in a partially open position could reduce reception performance.

Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.

When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and could result in the audio system muting. Your display could show an error message to indicate the interference.

### LOCATING THE SATELLITE RADIO IDENTIFICATION NUMBER

- Select SiriusXM as the audio source.
- 2. Tune to channel 0.

#### **SELECTING A CHANNEL**

#### **Manually Selecting a Channel**



Press the button to find the previous or next available radio channel.



#### **Linear Tuner**

The linear tuner is displayed when manually selecting a channel. You can swipe left or right on the linear tuner carousel to navigate through the channel list. Tap on a channel title to listen to it.

#### **Using Direct Tune**

- 1. Press the channel up or down button to open the linear tuner screen.
- 2. Press **Direct Tune** to open the number pad.
- 3. Enter the channel you prefer.

#### **Using Browse**

- 1. Press **Browse**.
- 2. Select a channel.

#### SATELLITE RADIO SETTINGS

#### **Subscription**

Your subscription status is displayed. You can subscribe or manage your subscription directly from the touchscreen.

#### SiriusXM Favorites

While you are listening to SiriusXM, you can save favorites by:

- Tapping the currently tuned channel or show logo on the SiriusXM audio screen.
- Tuning to a channel or show you want to save as a favorite. Navigate to the SiriusXM Favorites screen and press the Add Current button. The currently tuned channel or show is saved as a favorite.
- Saving a radio preset. This saves the currently tuned SiriusXM channel or show as a favorite

**Note:** Requires a trial or active subscription to use.

#### **Listening History**

Listening history is a list of recently listened to Sirius XM content. You can view, manage and reset the listening history using the controls on the touchscreen.

**Note:** Requires a trial or active subscription to use.

#### **Help and Support**

You can contact SiriusXM Customer Care directly from the operating system and view information required to manage your SiriusXM account.

#### **AUDIO SYSTEM - TROUBLESHOOTING**

#### **AUDIO SYSTEM - INFORMATION MESSAGES**

#### **Satellite Radio Troubleshooting**

Error Message	Potential Effects	Recommended Action
Connectivity Disabled	Internet streaming and On Demand shows are unavail- able and some SiriusXM features are disabled.	Internet connectivity is turned off. See <b>Connected Vehicle</b> (page 383).
No Internet	Audio system may mute. Switch to Satellite button may be displayed on the SiriusXM audio screen if the channel is also available via satellite.	SYNC attempts to connect. See <b>Satellite Radio Limit-</b> <b>ations</b> (page 392). Switch to a satellite connection for the current channel if the option is available.
No Satellite Signal	Audio system may mute. Switch to Internet button may be displayed on the SiriusXM audio screen if the channel is also available via streaming.	Antenna may be obstructed or satellite reception is weak in your location. See <b>Satellite Radio Limitations</b> (page 392). Switch to an internet connection for the current channel if the option is available.
Slow Network Connection	Audio system may mute while the audio attempts to load.	Allow some time for the audio to load or tune to a different channel.
Channel Unavailable	Audio system may mute. Radio may tune to a different channel.	A temporary update may be in progress. Allow some time before retrying to tune to the channel. If the issue continues, the channel may no longer be available.
Episode Unavailable	Audio system may mute. Radio may tune to a different channel.	A temporary update may be in progress. Allow some time before retrying to play the episode. If the issue continues, the episode may no longer be available.

Error Message	Potential Effects	Recommended Action
Something went wrong	Audio system may mute. Radio may tune to a different channel.	Allow some time and retry the action.
Subscribe to Listen	Cannot listen to selected content. Content may appear grayed out and some features may be disabled.	Your subscription has expired or you have not yet subscribed for access to the listed content. Navigate to Subscription under the Satellite Radio Settings menu. If you have an active subscription which includes the listed channel or content and you see this error, you may need to refresh your radio. To refresh your siriusXM radio, visit www.siriusxm.com/refresh in the US, or www.siriusxm.ca/refresh in Canada.  You may need to provide your SiriusXM Radio identification number. See  Locating the Satellite  Radio Identification  Number (page 392).

Error Message	Potential Effects	Recommended Action
Upgrade to Listen	Cannot listen to selected content. Content may appear grayed out and some features may be disabled.	Your subscription does not include access to the listed content. You may need to upgrade your subscription. Navigate to Subscription under the Satellite Radio Settings menu. If you have an active subscription which includes the listed channel or content and you see this error, you may need to refresh your radio. To refresh your SiriusXM radio, visit www.siriusxm.com/refresh in the US, or www.siriusxm.ca/refresh in Canada. You may need to provide your SiriusXM Radio identification number. See Locating the Satellite Radio Identification Number (page 392).
Location Restricted Content	Audio may mute. Not avail- able in your location or Unable to determine your location may be displayed.	Content is not available in your location or SiriusXM is unable to determine your location. Tuning to a different channel may resolve the issue.
Channel Blocked	Audio may mute. Radio may tune to a different channel.	The Block Explicit Content filter is turned on. Navigate to Listener Settings under the Satellite Radio Settings menu to access the Block Explicit Content filter. Navigate to Listener Settings. See <b>Satellite Radio Settings</b> (page 393).
Antenna Problem or Hard- ware Problem	Audio may mute. Access to SiriusXM features may be unavailable.	If issue persists, you may need to visit an authorized dealer for service.