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**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.**



# Table of Contents

---

## Introduction

About This Manual .....	9
About This Supplement - Mach 1 .....	9
Symbols Glossary .....	13
Data Recording .....	15
Perchlorate .....	19
Ford Credit .....	19
Replacement Parts Recommendation .....	19
Special Notices .....	20
Mobile Communications Equipment .....	20
Export Unique Options .....	21

## Environment

Protecting the Environment .....	22
----------------------------------	----

## At a Glance

Instrument Panel .....	23
------------------------	----

## Child Safety

General Information .....	25
Installing Child Restraints - Mach 1 .....	27
Installing Child Restraints - Vehicles Without: SVT Performance Package .....	28
Installing Child Restraints - Vehicles With: SVT Performance Package .....	34
Booster Seats .....	35
Child Restraint Positioning .....	37

## Seatbelts

Principle of Operation .....	40
Fastening the Seatbelts .....	41
Seatbelt Warning Lamp and Indicator Chime .....	43
Seatbelt Reminder .....	44
Child Restraint and Seatbelt Maintenance .....	46
Seatbelt Extensions .....	46

## Personal Safety System™

Personal Safety System™ .....	47
-------------------------------	----

## Supplementary Restraints System

Principle of Operation .....	48
Driver and Passenger Airbags .....	49
Front Passenger Sensing System .....	50
Side Airbags .....	53
Driver and Passenger Knee Airbags .....	54
Safety Canopy™ - Coupe .....	54
Crash Sensors and Airbag Indicator .....	56
Airbag Disposal .....	57

## Keys and Remote Controls

General Information on Radio Frequencies .....	58
Remote Control .....	58
Replacing a Lost Key or Remote Control .....	62

## MyKey™

What Is MyKey .....	63
MyKey Settings .....	63
Creating a MyKey .....	64
Programming a MyKey .....	64
Clearing All MyKeys .....	64
Checking MyKey System Status .....	65
Using MyKey With Remote Start Systems .....	65
MyKey – Troubleshooting .....	65

## Doors and Locks

Locking and Unlocking .....	67
Interior Luggage Compartment Release .....	72

## Security

Passive Anti-Theft System .....	73
Anti-Theft Alarm .....	74

# Table of Contents

---

## Steering Wheel

Adjusting the Steering Wheel .....	75
Audio Control .....	75
Voice Control .....	75
Cruise Control - Vehicles With: Cruise Control .....	76
Cruise Control - Vehicles With: Adaptive Cruise Control .....	76
Information Display Control - Vehicles With: SYNC .....	76
Information Display Control - Vehicles With: SYNC 3 .....	76
Horn .....	77
Switching the Heated Steering Wheel On and Off .....	77

## Wipers and Washers

Windshield Wipers .....	78
Autowipers .....	78
Windshield Washers .....	79

## Lighting

General Information .....	80
Lighting Control .....	80
Autolamps .....	81
Instrument Lighting Dimmer .....	81
Headlamp Exit Delay .....	81
Daytime Running Lamps - Vehicles With: Configurable Daytime Running Lamps .....	82
Daytime Running Lamps - Vehicles With: Daytime Running Lamps (DRL) .....	82
Front Fog Lamps .....	82
Direction Indicators .....	83
Welcome Lighting .....	83
Interior Lamps .....	83
Ambient Lighting .....	83

## Automatic High Beam Control

What Is Automatic High Beam Control .....	84
Switching Automatic High Beam Control On and Off .....	84
Automatic High Beam Control Indicators .....	84
Overriding Automatic High Beam Control .....	84

## Windows and Mirrors

Power Windows .....	86
Global Opening .....	86
Exterior Mirrors .....	87
Interior Mirror .....	88
Sun Visors .....	88

## Instrument Cluster

Gauges - Mach 1 .....	90
Gauges - Vehicles With: 12.3 Inch Instrument Cluster Display Screen .....	90
Gauges - Vehicles With: 4.2 Inch Instrument Cluster Display Screen .....	92
Warning Lamps and Indicators .....	94
Audible Warnings and Indicators .....	97

## Information Displays

General Information - Mach 1 .....	99
General Information - Vehicles With: 4.2 Inch Instrument Cluster Display Screen .....	103
General Information - Vehicles With: 12.3 Inch Instrument Cluster Display Screen .....	109
Information Messages .....	113

## Remote Start

What Is Remote Start .....	124
Remote Start Limitations .....	124

# Table of Contents

---

Enabling Remote Start .....	124
Remotely Starting the Engine .....	124
Extending the Remote Start Duration .....	124
Remotely Stopping the Engine .....	125
Remote Start Remote Control Indicators .....	125
Remote Start Settings .....	125

## Climate Control

Manual Climate Control .....	127
Automatic Climate Control .....	128
Hints on Controlling the Interior Climate - Vehicles With: Manual Temperature Control .....	130
Hints on Controlling the Interior Climate - Vehicles With: Automatic Temperature Control .....	131
Heated Rear Window .....	132
Heated Exterior Mirrors .....	132

## Interior Air Quality

What Is the Cabin Air Filter .....	133
Locating the Cabin Air Filter .....	133
Replacing the Cabin Air Filter .....	133

## Seats

Sitting in the Correct Position .....	134
Head Restraints .....	134
Manual Seats .....	136
Power Seats .....	137
Memory Function .....	137
Rear Seats .....	139
Climate Controlled Seats .....	139

## Garage Door Opener

What Is the Garage Door Opener .....	141
How Does the Garage Door Opener Work .....	141
Garage Door Opener Precautions .....	141
Garage Door Opener Limitations .....	141

Programming the Garage Door Opener to Your Hand-Held Transmitter .....	142
Programming the Garage Door Opener to Your Garage Door Opener Motor .....	142
Programming the Garage Door Opener to Your Gate Opener Motor .....	143
Clearing the Garage Door Opener .....	143
Reprogramming the Garage Door Opener .....	144
Garage Door Opener Radio Frequencies .....	144

## Auxiliary Power Points

Auxiliary Power Points .....	145
------------------------------	-----

## Storage Compartments

Center Console .....	146
Glasses Holder .....	146

## Starting and Stopping the Engine

General Information .....	147
Keyless Starting .....	147
Steering Wheel Lock .....	148
Starting a Gasoline Engine .....	148
Engine Block Heater .....	150

## Fuel and Refueling

Safety Precautions .....	152
Fuel Quality - Mach 1 .....	152
Fuel Quality .....	153
Fuel Filler Funnel Location .....	154
Running Out of Fuel .....	154
Refueling .....	156
Fuel Consumption .....	158

## Engine Emission Control

Emission Law .....	160
Catalytic Converter .....	161

# Table of Contents

---

## Transmission

Manual Transmission .....	164
Automatic Transmission .....	165
Technical Specifications - Mach 1 .....	168

## Rear Axle

Limited Slip Differential .....	170
---------------------------------	-----

## Brakes

General Information .....	171
Hints on Driving With Anti-Lock Brakes .....	171
Parking Brake .....	172
Hill Start Assist .....	173

## Traction Control

Principle of Operation .....	174
Using Traction Control .....	174

## Stability Control

Principle of Operation .....	175
Using Stability Control .....	176

## Parking Aids

Principle of Operation .....	178
Rear Parking Aid .....	179
Rear View Camera .....	180

## Cruise Control

What Is Cruise Control .....	184
Switching Cruise Control On and Off .....	184
Setting the Cruise Control Speed .....	184
Canceling the Set Speed .....	185
Resuming the Set Speed .....	185
Cruise Control Indicators .....	185
Using Adaptive Cruise Control .....	185

## Driving Aids

Driver Alert .....	191
--------------------	-----

Lane Keeping System .....	192
Blind Spot Information System .....	196
Cross Traffic Alert .....	198
Steering .....	201
Pre-Collision Assist .....	202
Drive Control - Mach 1 .....	206
Drive Control .....	209

## Load Carrying

Load Limit .....	213
------------------	-----

## Towing

Towing a Trailer - Mach 1 .....	218
Towing a Trailer .....	218
Recommended Towing Weights .....	219
Essential Towing Checks .....	220
Transporting the Vehicle - Mach 1 .....	222
Transporting the Vehicle on Four Wheels .....	225

## Convertible Top

Opening the Convertible Top .....	226
Closing the Convertible Top .....	227

## Driving Hints

Reduced Engine Performance .....	229
Economical Driving .....	229
Cold Weather Precautions .....	230
Breaking-In .....	230
Driving Through Water .....	230
Floor Mats .....	231

## Roadside Emergencies

Roadside Assistance .....	232
Hazard Flashers .....	233
Fuel Shutoff .....	233
Jump Starting the Vehicle .....	234
Post-Crash Alert System .....	236
Transporting the Vehicle .....	237

# Table of Contents

## Customer Assistance

Getting the Services You Need .....	238
In California (U.S. Only) .....	239
The Better Business Bureau (BBB) Auto Line Program (U.S. Only) .....	240
Utilizing the Mediation/Arbitration Program (Canada Only) .....	241
Getting Assistance Outside the U.S. and Canada .....	241
Ordering Additional Owner's Literature .....	243
Reporting Safety Defects (U.S. Only) .....	243
Reporting Safety Defects (Canada Only) .....	243

## Fuses

Fuse Specification Chart .....	245
Changing a Fuse .....	254

## Maintenance

General Information .....	256
Opening and Closing the Hood .....	256
Under Hood Overview - 2.3L EcoBoost™ .....	258
Under Hood Overview - 5.0L .....	259
Under Hood Overview - 5.0L, Mach 1 .....	260
Engine Oil Dipstick .....	261
Engine Oil Check .....	261
Oil Change Indicator Reset .....	261
Changing the Engine Air Filter - 5.0L, Mach 1 .....	262
Changing the Engine Air Filter - 2.3L EcoBoost™/5.0L .....	263
Engine Coolant Check .....	264
Manual Transmission Fluid Check - 6-Speed Manual Transmission – 3160 .....	268
Manual Transmission Fluid Check - 6-Speed Manual Transmission – MT82 .....	268

Automatic Transmission Fluid Check .....	269
Brake Fluid Check .....	269
Clutch Fluid Check - Manual Transmission .....	270
Power Steering Fluid Check .....	270
Changing the 12V Battery .....	270
Adjusting the Headlamps .....	272
Washer Fluid Check .....	274
Fuel Filter .....	274
Checking the Wiper Blades .....	274
Changing the Wiper Blades .....	274
Changing a Bulb .....	275

## Track Use

Track Use - Mach 1 .....	276
Track Use .....	283

## Vehicle Care

General Information .....	289
General Information - GT500/Mach 1 .....	289
Cleaning Products .....	290
Cleaning the Exterior - Mach 1 .....	291
Cleaning the Exterior .....	291
Waxing .....	293
Cleaning the Engine - Mach 1 .....	293
Cleaning the Engine .....	293
Cleaning the Windows and Wiper Blades .....	294
Cleaning the Interior .....	294
Cleaning the Instrument Panel and Instrument Cluster Lens .....	295
Cleaning Leather Seats .....	295
Repairing Minor Paint Damage .....	296
Cleaning the Wheels .....	296
Vehicle Storage .....	296
Cleaning the Convertible Top .....	298
Body Styling Kits .....	298



# Table of Contents

## Wheels and Tires

General Information .....	299
Tire Sealant and Inflator Kit .....	299
Tire Care .....	305
Using Summer Tires .....	320
Using Winter Tires .....	323
Using Snow Chains .....	323
Tire Pressure Monitoring System .....	324
Changing a Road Wheel .....	328
Driving at High Speed .....	333
Technical Specifications .....	334

## Capacities and Specifications

Engine Specifications - 2.3L EcoBoost™ .....	335
Engine Specifications - 5.0L, Mach 1 .....	335
Engine Specifications - 5.0L .....	337
Brake System Specifications - Mach 1 .....	337
Suspension Specifications - Mach 1 .....	339
Motorcraft Parts - 2.3L EcoBoost™ .....	340
Motorcraft Parts - 5.0L .....	341
Motorcraft Parts - 5.0L, Bullitt/Mach 1 .....	342
Vehicle Identification Number .....	343
Capacities and Specifications - 2.3L EcoBoost™ .....	343
Capacities and Specifications - 5.0L .....	351
Bulb Specification Chart .....	359

## Connected Vehicle

What Is a Connected Vehicle .....	360
Connected Vehicle Requirements .....	360
Connected Vehicle Limitations .....	360
Connecting the Vehicle to a Mobile Network .....	360
Connecting the Vehicle to a Wi-Fi Network .....	360

Connected Vehicle – Troubleshooting - Vehicles With: Modem .....	361
Connected Vehicle – Troubleshooting - Vehicles With: SYNC 3 .....	362

## Vehicle Wi-Fi Hotspot

Creating a Vehicle Wi-Fi Hotspot .....	364
Changing the Vehicle Wi-Fi Hotspot Name or Password .....	364

## Audio System

General Information .....	365
Audio Unit - Vehicles With: 4.2 Inch Information and Entertainment Display Screen .....	365
Audio Unit - Vehicles With: 8 Inch Information and Entertainment Display Screen .....	367
Digital Radio .....	369
Satellite Radio .....	371
USB Port .....	374

## SYNC™

General Information .....	375
Using Voice Recognition .....	376
Using SYNC™ With Your Phone .....	378
SYNC™ Applications and Services .....	379
Using SYNC™ With Your Media Player .....	382
SYNC™ Troubleshooting .....	383

## SYNC™ 3

General Information .....	392
Using Voice Recognition .....	394
Entertainment .....	401
Climate .....	411
Phone .....	413
Navigation .....	415
Apps .....	420
Settings .....	423
SYNC™ 3 Troubleshooting .....	425

# Table of Contents

---

## **Accessories**

Accessories .....438

## **Ford Protect**

Ford Protect .....439

## **Scheduled Maintenance**

General Maintenance Information .....441

Normal Scheduled Maintenance .....444

Special Operating Conditions Scheduled  
Maintenance .....447

## **Customer Information**

Radio Frequency Certification Labels  
.....451

## **Appendices**

Electromagnetic Compatibility .....483

End User License Agreement .....486

Declaration of Conformity - Vehicles  
With: SYNC 3 .....511



# Introduction

## ABOUT THIS MANUAL

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



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

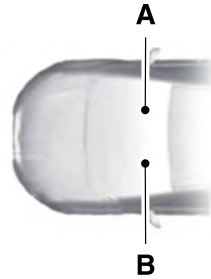
**Note:** *This manual describes product features and options available throughout the range of available models, sometimes even before they are generally available. It may describe options not fitted to the vehicle you have purchased.*

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

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

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

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



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

## ABOUT THIS SUPPLEMENT - MACH 1

Congratulations on your decision to purchase the latest from Ford — the Mach 1. If you've owned or leased a Ford product in the past, we're glad you're back. If this is your first Ford vehicle, welcome to the Ford family! We are confident that our dedication to performance, quality, craftsmanship and customer service will ensure many miles of exhilarating, safe and comfortable driving in your new Mach 1.

# Introduction

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Your choice of a Ford product is an intelligent and informed one. Ford strives to build engaging vehicles that involve the driver in every aspect of the driving experience. Although performance is at the heart of every Ford vehicle, we go much further. Our goal is to deliver a comprehensive, complete vehicle, sweating the details such as the sound of the exhaust, the quality of the interior materials, and the functionality and the comfort of the seats, to ensure that the driver enjoys not only exceptional performance but an outstanding driving environment as well. In the Mach 1, that philosophy is expressed by a sophisticated powertrain, outstanding chassis dynamics and significant interior and exterior enhancements.

This supplement complements your Mustang Owner's Manual and provides information specific to the Mach 1. By referring to the pages listed in this supplement, you can identify those features, recommendations and specifications unique to your new vehicle. If there are any discrepancies between this supplement and the Mustang Owner's Manual, this supplement shall supersede the information found in the Mustang Owner's Manual.

## Mach 1 History

The Ford Mustang has been celebrated over the past half-century with many special performance versions, including several unique models that have proudly carried their own nomenclature. There have been HiPo's, Shelybs and GTs, plus California Specials, Bosses, Cobras, SVO's and 5.0's, Cobra Jets and Bullitts – each with distinct design cues and equipment enhancements targeted at specific buyers. Of them all, perhaps the best-known and most accessible to the widest owner base is the Mustang Mach 1, a sporty fastback first introduced in 1969 that had the look, features and performance that helped define the muscle car era.

In postwar America, the Jet Age influence was all the rage -- especially in the auto industry, where tail fins and air intakes influenced progressive car designs. It was then when the terms Mach 1 and Sound Barrier became part of public conversation, as jets and rockets were being employed in aeronautic experiments to help humankind soar past the speed of sound.

# Introduction

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Ford's first use of the Mach 1 name came on a concept vehicle – a wheel-less single-seat pod tethered to an arm that allowed it to glide on a cushion of air around a circular track set up at the Ford Rotunda in the spring of 1959. Ford's Levacar Mach 1 Concept was an air-propulsion flying car of sorts, suggesting that vehicles in the future could use ducted air to levitate and maneuver at high speed while off the ground.

The Mach 1 name was resurrected in 1966 for another Ford concept car that was meant to preview some aerodynamic and styling advances for a futuristic high-performance Mustang fastback. The two-seat Mustang Mach 1 Concept that was shown at the 1967 Detroit Auto Show featured a slanted areo-grille, severely chopped roof, large air scoops and steeply slanted rear glass as part of a full hatchback -- a design feature that wouldn't appear in production until 1974. Ford updated the Mustang Mach 1 Concept with a new front-end treatment in time for touring the auto show circuit in 1968 to herald the popular pony car's third styling refresh due the following year.

By the time 1969 had rolled around, the again restyled and upsized Ford Mustang was facing a series of new challenges, both in the muscle car wars taking place out in the marketplace by an onslaught of powerful new competitors, and inside of Ford Motor Company, where a new, Steed for Every Need marketing approach expanded pony car offerings to five distinct models with at least 10 different powertrain combinations. Ford's Mustang had galloped into its fifth model year refreshed with unmistakable good looks, thanks to its 2+2 fastback now called the SportsRoof, featuring upper rear-quarters cut with forward-facing scoops and a dramatic tail that incorporated an upswept rear edge.

Even though the GT equipment group introduced in 1965 was again available for a final year, it was overshadowed for 1969, as the hot ticket was an all-new Mach 1 model – wearing the name borrowed from those radical recent Mustang show cars. The new Mustang Mach 1 came standard with the 351, a desirable mix of appearance enhancements, plus special reflective bodyside stripes and an uplevel interior. Later, a flat-black rear decklid spoiler and a set of rear window louvers were added as dress-up options. To many enthusiasts today, a '69 Mach 1 equipped with an optional new-for-'69 428 Cobra Jet V-8 is the first true Mustang muscle car and a top-shelf collectible.

Other than yet another front-end freshening (including going back to just two headlamps and adding non-functional outboard air inlets) and the elimination of the side scoops, the biggest change to the 1970 Mustang lineup was a move to the Cleveland-design 351 V-8 over the Windsor 351 version from the year before. The GT model was dropped in the face of the Mach 1's popularity, but the 428CJ engine option was again available across the board. By 1971, Ford's famed first-generation pony car had already undergone its fourth major facelift, growing in every dimension to accommodate even bigger engines. The '71 Mustang featured an extended nose with a body that was wider, close to a foot longer and around 600 pounds heavier than the original. The SportsRoof-only Mach 1 model was now Ford's bread-and-butter enthusiast model, especially with the optional new big-block 429 Cobra Jet engine, good for 370 horsepower.

There were only minor changes on tap for Mustang in 1972 and '73, most of them dealing with the options list and the continuing emasculation of engine offerings and horsepower in the face of emissions and fuel economy regulations,

# Introduction

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as well as the elimination of a convertible. The automotive performance world soon came to a screeching halt in the wake of an oil embargo and resulting gas shortages, forcing most Americans to abandon their muscle cars and V-8-powered rides in favor of smaller, more fuel-efficient vehicles. Ford saw the market shift as the perfect time to return its pony car to its roots – a compact, affordable, sporty car whose styling and image captured the spirit and imagination of the American public.

When the new-from-the-ground-up, second-generation Mustang II was launched for the 1974 model year, it was the first Mustang equipped with a four-cylinder engine. An all-new 2.3-liter I-4 produced around 90 horses as the standard powerplant for the downsized Mustang II – yet performance was roughly equivalent to the previous Mustang's big inline six. The Mustang II was available as a hardtop two-door notchback coupe or a three-door hatchback-style fastback. Buyers had a choice of either I-4 or V-6 power, as well as a three-speed automatic or four-speed manual transmissions. To keep Mustang's performance image going even in a world where consumers favored fuel economy over horsepower, an enthusiast-focused Mustang II Mach 1 model was offered as a three-door hatchback-style fastback, replete with bucket seats.

There's little question that the saving grace for the Mustang II's performance reputation came when Ford finally realized it needed to put the 302 V-8 back onto the Mustang option list for 1975-78. The V-8 was available in any model, but first only mated to a three-speed automatic transmission, as a four-speed manual was delayed a full year until a suitable clutch could be tooled up. The two-barrel 302 shoehorned into the Mustang II got catalytic converters to help meet 1976's

tighter emissions standards, and saw an increase to 139 horsepower – nearly equal to the '73's standard V-8 power level. The Mach 1's optional Competition Suspension package offered stiffer springs, adjustable shock absorbers and fatter front and rear stabilizer bars to improve handling, and kept it a popular enthusiast choice over all five years of Mustang II's production. By the dawn of the third-generation Mustang, the Mach name would not return again to the Mustang line until some 25 years later.

After the 1979-93 Fox Body Mustang years had come and gone with the reintroduction of a GT model, new sheet metal on a revamped SN-95 platform helped to rekindle consumer interest in a fourth-generation Ford Mustang. Enthusiasts lavished their attention upon the 1993-1999 Mustang Cobra performance model developed by the Ford Special Vehicle Team skunkworks group, while Ford engineers looked to specialty models to fill the mid-market slot between the standard Mustang GT and the upmarket Cobra.

After the success of the 2001 Bullitt, a new-for-2003 Mach 1 was launched to offer fans some design cues from its '69 namesake, including a blackout hood, black front air-dam extension and rear decklid spoiler – even bodyside scoops. To match its aggressive look and hardware upgrades, the '03 Mach 1 was powered by a 305-horsepower, 4.6L DOHC modular V-8. Unlike the SVT Cobra, the Mach 1 offered an automatic transmission option in lieu of the manual, and consequently drew a new group of enthusiast buyers into the Ford fold. The strong customer response prompted another year of Mach 1 production for 2004, the Mustang's final year on the fourth-gen platform.

# Introduction








Thanks to a popular mix of appearance, features and power, the 1969-73 Mach 1's proved to be everyman's muscle car, and have earned a respected place in Mustang performance lore. Beyond those classic years, the Mach 1 carried over for all five years of the often overlooked 1974-78's before a hiatus that ended with the modern and muscular 2003-04's. Mach 1's return to the Mustang lineup for 2021 will add a new chapter on modern-day muscle for this beloved model, and will cement its rightful place near the very top of Mustang performance history.
















John M. Clor

Enthusiast Communications Manager /  
FORD PERFORMANCE

## SYMBOLS GLOSSARY

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

	Air conditioning system
	Air conditioning system lubricant type
	Anti-lock braking system
	Avoid smoking, flames or sparks
	Battery
	Battery acid
	Brake fluid - non petroleum based

	Brake system
	Brake system
	Cabin air filter
	Check fuel cap
	Child safety door lock or unlock
	Child seat lower anchor
	Child seat tether anchor
	Cruise control
	Do not open when hot
	Engine air filter
	Engine coolant
	Engine coolant temperature
	Engine oil
	Explosive gas
	Fan warning



# Introduction



Fasten seatbelt



Flammable



Front airbag



Front fog lamps



Fuel pump reset



Fuse compartment



Hazard flashers



Heated rear window



Windshield defrosting system



Interior luggage compartment release



Jack



Keep out of reach of children



Lighting control



Low tire pressure warning



Maintain correct fluid level



Note operating instructions



Horn control



Panic alarm



Parking aid



Parking brake



Power steering fluid



Power windows front/rear



Power window lockout



Requires registered technician



Safety alert



See Owner's Manual



See Service Manual



Service engine soon



Passenger airbag activated



Passenger airbag deactivated

# Introduction



Side airbag



Shield the eyes



Stability control



Hill descent control



Trail control



Windshield wiping system



Windshield wash and wipe

## DATA RECORDING



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

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

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

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

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

Data recorded includes, for example:

- Operating states of system components, for example, fuel level, tire pressure and battery charge level.
- Vehicle and component status, for example, wheel speed, deceleration, lateral acceleration and seatbelt status.
- Events or errors in essential systems, for example, headlamps and brakes.
- System responses to driving situations, for example, airbag deployment and stability control.
- Environmental conditions, for example, temperature.

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

# Introduction

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## Service Data

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

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

## Event Data

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

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

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

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

# Introduction

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

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

## Comfort, Convenience and Entertainment Data

Your vehicle has electronic control units that have the ability to store data based on your personalized settings. The data is stored locally in the vehicle or on devices that you connect to it, for example, a USB drive or digital music player. You can delete some of this data and also choose whether to share it through the services to which you subscribe. See **Settings** (page 423).

### Comfort and Convenience Data

Data recorded includes, for example:

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

### Entertainment Data

Data recorded includes, for example:

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

## Services That We Provide

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

## Services That Third Parties Provide

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

## Vehicles With a Modem (If Equipped)



The modem has a SIM. The modem was enabled when your vehicle was built and periodically sends messages to stay connected to the cell phone network, receive automatic software updates and send vehicle-related information to us, for example, diagnostic information. These messages could include information that identifies your vehicle, the SIM and the electronic serial number of the modem. Cell phone network

# Introduction

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service providers could have access to additional information, for example, cell phone network tower identification. For additional information about our privacy policy, visit [www.FordConnected.com](http://www.FordConnected.com) or refer to your local Ford website.

**Note:** *The modem continues to send this information unless you disable the modem or stop the modem from sharing vehicle data by changing the modem settings.*

**Note:** *The service can be unavailable or interrupted for a number of reasons, for example, environmental or topographical conditions and data plan coverage.*

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

## Vehicles With SYNC

### Mobile Device Data

If you connect a mobile device to your vehicle, you can display data from your device on the touchscreen for example, music and album art. You can share your vehicle data with mobile apps on your device through the system. See **Apps** (page 420).

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

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

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

The cell phone profile, media device index and diagnostic log remain in your vehicle unless you delete them and are generally accessible only in your vehicle when you connect your cell phone or media device. If you no longer plan to use the system or your vehicle, we recommend you use the master reset function to erase the stored information. See **Settings** (page 423).

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

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

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

## Vehicles With an Emergency Call System

When the emergency call system is active, it may disclose to emergency services that your vehicle has been in a crash involving the deployment of an airbag or activation of the fuel pump shut-off. Certain versions or updates to the emergency call system may also be capable of electronically or verbally disclosing to emergency services operators your vehicle location or other

# Introduction

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details about your vehicle or crash to assist emergency services operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not activate the emergency call system.

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

## PERCHLORATE

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

**For more information visit:**

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

## FORD CREDIT

### US Only

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

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

## REPLACEMENT PARTS RECOMMENDATION

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

### Scheduled Maintenance and Mechanical Repairs

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

Genuine Ford and Motorcraft parts meet or exceed these specifications.

### Collision Repairs

We hope that you never experience a collision, but accidents happen sometimes. Genuine Ford replacement collision parts meet our stringent requirements for fit, finish, structural integrity, corrosion protection and dent resistance. During vehicle development we validate that these parts deliver the intended level of protection as a whole system. A great way to know for sure you are getting this level of protection is to use genuine Ford replacement collision parts.

### Warranty on Replacement Parts

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

# Introduction

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

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

## SPECIAL NOTICES

### New Vehicle Limited Warranty

#### Vehicles sold in the United States and Canada

For a detailed description of what is covered by your New Vehicle Limited Warranty, see your warranty guide that is available online. For more information, refer to our website and download your copy of the warranty guide.

#### Vehicles sold outside the United States and Canada

For a detailed description of what is covered by your New Vehicle Limited Warranty, see the warranty guide that is provided to you along with your Owner's Manual.

### Special Instructions

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



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



**WARNING:** NEVER use a rearward facing child restraint on a seat protected by an ACTIVE AIRBAG in front of it, DEATH or SERIOUS INJURY to the CHILD can occur.

### On Board Diagnostics Data Link Connector



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

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

### MOBILE COMMUNICATIONS EQUIPMENT



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any

# Introduction

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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.

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

## EXPORT UNIQUE OPTIONS

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



# Environment

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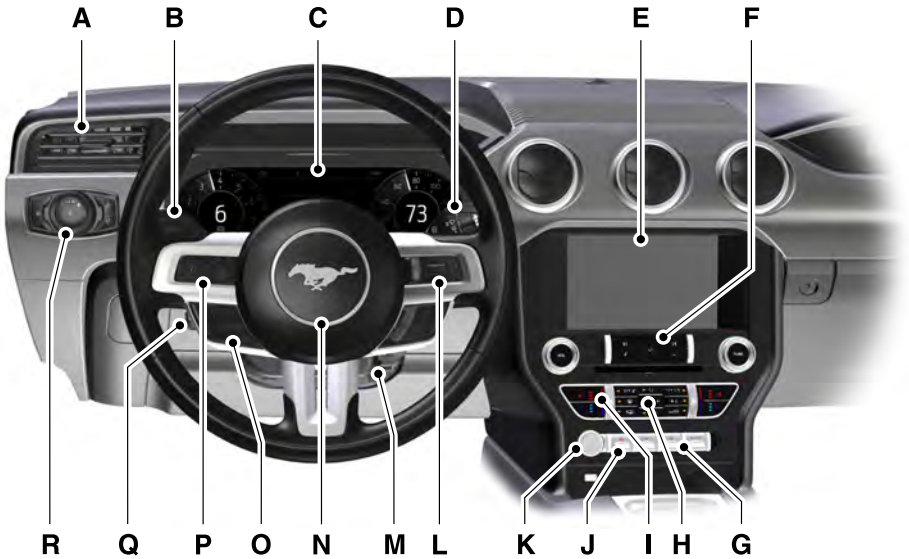
## **PROTECTING THE ENVIRONMENT**

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

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

# At a Glance

## INSTRUMENT PANEL



E250044

- A Air vents.
- B Direction indicators. See **Direction Indicators** (page 83).
- C Instrument cluster. See **Instrument Cluster** (page 90).
- D Wiper lever. See **Wipers and Washers** (page 78).
- E Information and entertainment display. See **General Information** (page 392).
- F Audio unit. See **Audio System** (page 365).
- G Drive control switches. See **Drive Control** (page 209).
- H Climate controls. See **Climate Control** (page 127).
- I Climate controlled seats. See **Climate Controlled Seats** (page 139).
- J Hazard flasher switch. See **Hazard Flashers** (page 233).
- K Keyless start button. See **Keyless Starting** (page 147).
- L Information display controls. See **Information Display Control** (page 76).
- M Steering wheel adjustment. See **Adjusting the Steering Wheel** (page 75).

## At a Glance

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- N Horn.
- O Cruise control switches. See **Cruise Control** (page 184).
- P Audio control. See **Audio Control** (page 75).
- Q Luggage compartment release button. See **Locking and Unlocking** (page 67).
- R Lighting control. See **Lighting** (page 80).

# Child Safety

## GENERAL INFORMATION

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



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



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

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



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

# Child Safety

## Recommendations for Safety Restraints for Children

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

- You are required by law to properly use child restraints for infants and toddlers in the United States, Canada and Mexico.
- Many states and provinces require that small children use approved booster seats until they reach age eight, a height of 57 in (1.45 m) tall, or 80 lb (36 kg). Check your local and state or provincial laws for specific requirements about the safety of children in your vehicle.
- When possible, properly restrain children 12 years of age and under in a rear seating position of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in a front seating position. See **Front Passenger Sensing System** (page 50).
- When installing a rear facing child restraint, adjust the vehicle seats to avoid interference between the child restraint and the vehicle seat in front of the child restraint.

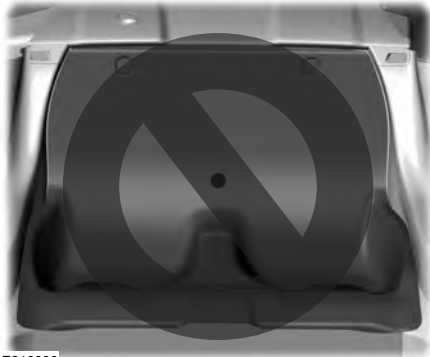
# Child Safety

## INSTALLING CHILD RESTRAINTS - MACH 1

### Rear Seat Delete (If Equipped)



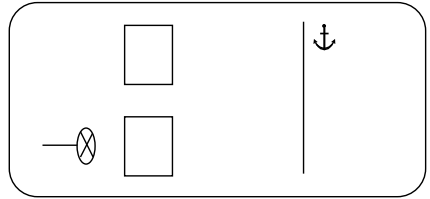
**WARNING:** It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a crash, people riding in these areas are more likely to be seriously injured or killed. Do not allow people to ride in any area of your vehicle that is not equipped with seats and seatbelts. Make sure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



E216990

This is not a seating position. You cannot place persons or child restraints in the rear of the vehicle with the rear seat delete option.

### Vehicles Without Rear Seats



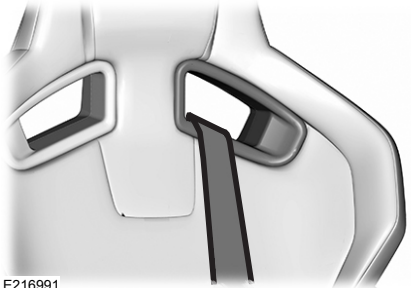
E216824

Once you have installed the child restraint using the seatbelt, you can attach the top tether strap.

Attach the tether strap only to the appropriate tether anchor as shown. The tether strap may not work properly if you attach it somewhere other than the correct tether anchor.

Perform the following to attach a child restraint to the tether anchor.

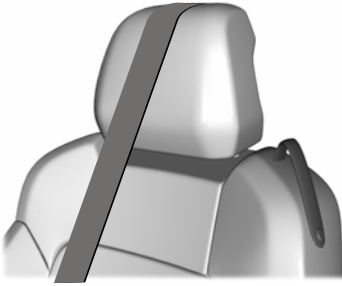
Route the tether strap as follows.



E216991

For Recaro front seats without rear seats, route the tether strap through the innermost slot of the front passenger seat backrest or route the tether strap over the top of the seat. You may need a tether strap extension to reach the tether anchor.

# Child Safety



For standard front seats without rear seats, route the tether strap over the top of the seat.

If you install a child restraint and you attach the top tether strap to the proper top tether anchor, do not tighten the tether strap enough to lift the child restraint off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child restraint. Keeping the child restraint just touching the vehicle seat gives the best protection in a severe crash.

See the Child Safety chapter in your base Owner's Manual for more information.

## INSTALLING CHILD RESTRAINTS - VEHICLES WITHOUT: SVT PERFORMANCE PACKAGE

### Child Seats



E142594

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

### Using Lap and Shoulder Belts



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



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

# Child Safety



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

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

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

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

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



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



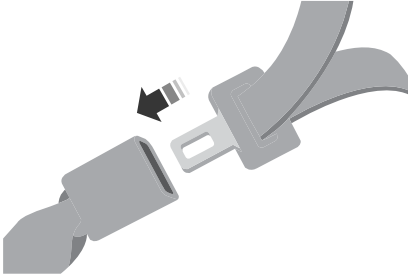
2. Pull down on the shoulder belt and then grasp the shoulder belt and lap belt together.





# Child Safety

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



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



5. To put the retractor in the automatic locking mode, grasp the shoulder portion of the belt and pull downward until all of the belt is pulled out.

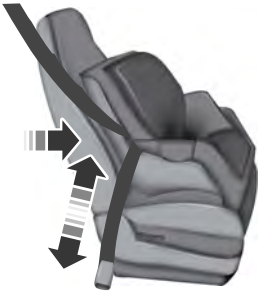
**Note:** The automatic locking mode is available on the front passenger and rear seats. This vehicle does not require the use of a locking clip.

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



8. Remove remaining slack from the belt. Force the seat down with extra weight, for example, by pressing down or kneeling on the child restraint while pulling up on the shoulder belt in order to force slack from the belt. This is necessary to remove the remaining slack that exists once you add the extra weight of the child to the child restraint. It also helps to achieve the proper snugness of the child restraint to your vehicle. Sometimes, a slight lean toward the buckle will additionally help to remove remaining slack from the belt.
9. If the child restraint has a tether strap, attach it.

# Child Safety



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

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

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

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

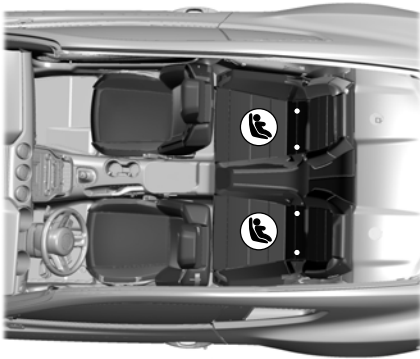
**WARNING:** Depending on where you secure a child restraint, and depending on the child restraint design, you may block access to certain seatbelt buckle assemblies and LATCH lower anchors, rendering those features potentially unusable. To avoid risk of injury, make sure occupants only use seating positions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

**WARNING:** The center of the rear seat is not designed as a seating position and is not equipped with seatbelts. The LATCH anchors were not designed to be used with a child restraint in the center position and there is no tether anchor available at the center. Do not attempt to use the center as a seating position as this will increase the risk of injury or death in the event of a crash.

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

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

# Child Safety



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

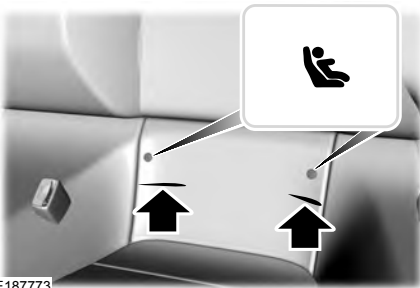
When used in combination, you can attach either the seatbelt or the LATCH lower anchors first, provided a proper installation is achieved. Attach the tether strap afterward, if included with the child restraint.

## Using Tether Straps



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

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



E187773

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

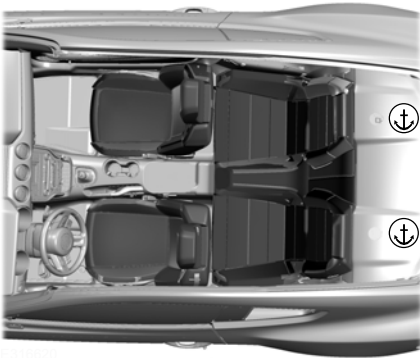
Only attach LATCH lower attachments of the child restraint to the anchors shown.

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

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

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

# Child Safety



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

### For coupe:

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

1. Route the tether strap over the top of the seat backrest.



E174400

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

3. Open the tether anchor cover.



E174401

4. Clip the tether strap to the anchor as shown.
5. Tighten the child restraint tether strap according to the manufacturer's instructions. If your child restraint system has a tether strap, and the child restraint manufacturer recommends its use, we also recommend its use.

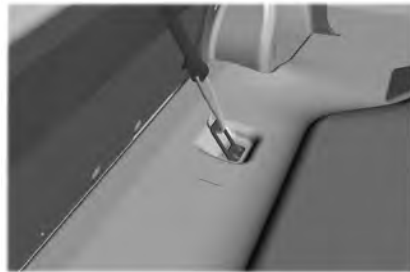
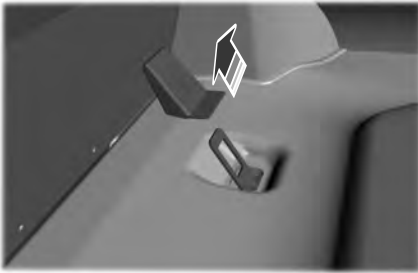
If you have not properly anchored the child restraint, the risk of a child being injured in a crash greatly increases.

### For vehicles with a convertible top:

**Note:** *For easier access, attach the tether with the convertible top up.*

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

# Child Safety



E185416

2. Access the tether anchors behind the seat backrest.
3. Remove the tether anchor cap.
4. Clip the tether strap to the anchor.
5. Tighten the child restraint tether strap according to the manufacturer's instructions.

If you have not properly anchored the child restraint, the risk of a child being injured in a crash greatly increases.

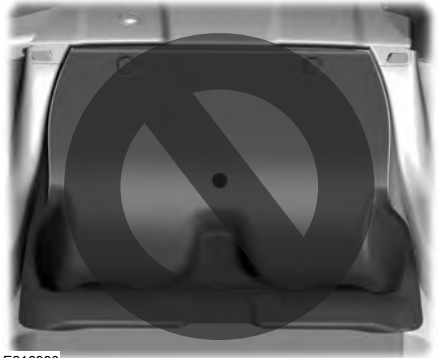
If your child restraint system has a tether strap, and the child restraint manufacturer recommends its use, we also recommend its use.

## INSTALLING CHILD RESTRAINTS - VEHICLES WITH: SVT PERFORMANCE PACKAGE

### Rear Seat Delete (If Equipped)



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

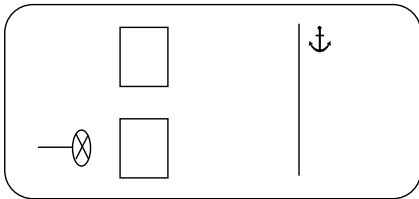


E216990

This is not a seating position. You cannot place persons or child restraints in the rear of the vehicle with the rear seat delete option.

# Child Safety

## Vehicles Without Rear Seats



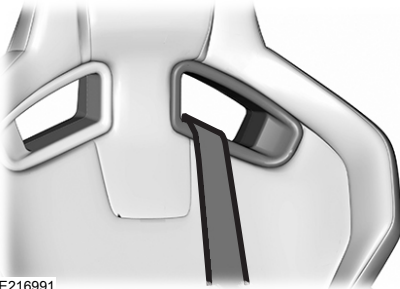
E216824

Once you have installed the child restraint using the seatbelt, you can attach the top tether strap.

Attach the tether strap only to the appropriate tether anchor as shown. The tether strap may not work properly if you attach it somewhere other than the correct tether anchor.

Perform the following to attach a child restraint to the tether anchor.

Route the tether strap as follows.



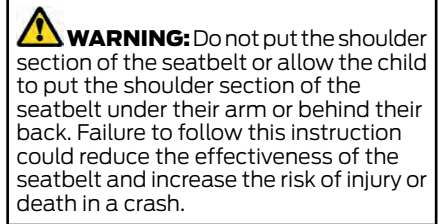
E216991

For coupe without rear seats, route the tether strap through the inboard slot of the front passenger seat backrest or route the tether strap over the top of the seat. You may need a tether strap extension to reach the tether anchor.

If you install a child restraint and you attach the top tether strap to the proper top tether anchor, do not tighten the tether strap enough to lift the child restraint off the vehicle seat cushion when the child is seated in it. Keep the tether strap just snug without lifting the front of the child restraint. Keeping the child restraint just touching the vehicle seat gives the best protection in a severe crash.

See the Child Safety chapter in your base Owner's Manual for more information.

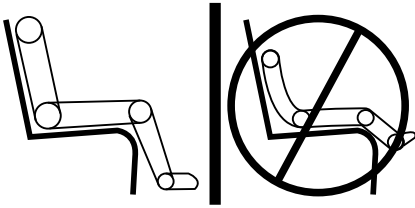
## BOOSTER SEATS



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

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

# Child Safety



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

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

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

## Types of Booster Seats



- Backless booster seats



- High back booster seats

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

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

# Child Safety



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

## CHILD RESTRAINT POSITIONING



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



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





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





# Child Safety


warnings provided for installation and use in conjunction with the instructions and warnings provided by your vehicle manufacturer. A safety seat that is improperly installed or utilized, is inappropriate for your child's height, age, or weight or does not properly fit the child may increase the risk of serious injury or death.

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

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

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

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

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

# Child Safety

## Recommendations for Attaching Child Safety Restraints for Children

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

**Note:** The child restraint must rest tightly against the vehicle seat upon which it is installed. It may be necessary to lift or remove the head restraint. See **Seats** (page 134).

# Seatbelts

## PRINCIPLE OF OPERATION



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



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



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



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



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



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



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



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



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



**WARNING:** The center of the rear seat is not designed as a seating position and is not equipped with seatbelts. The LATCH anchors were not designed to be used with a child restraint in the center position and there is no tether anchor available at the center. Do not attempt to use the center as a seating position as this will increase the risk of injury or death in the event of a crash.

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

The seatbelt system consists of:

- Lap and shoulder seatbelts.
- Seatbelt pretensioner at the front outboard seating positions.
- Belt tension sensor at the front outboard passenger seating position.

# Seatbelts



· Seatbelt warning light and chime.



· Crash sensors and monitoring system with readiness indicator.

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

## FASTENING THE SEATBELTS

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

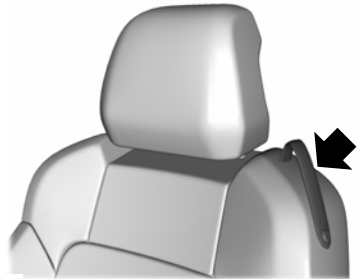
A web guide is included on the outboard side of the front seats. Depending on occupant size and seating position, you may need to route the belt through the guide for a proper fit. If the seatbelt does not route across the middle of the shoulder, route the belt through the web guide.

### Convertible



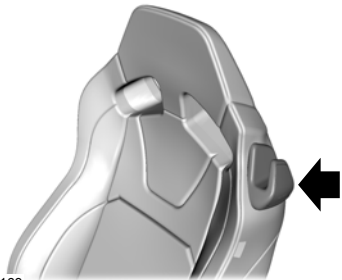
E175860

### Coupe



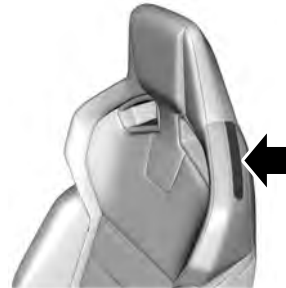
E175859

### Recaro



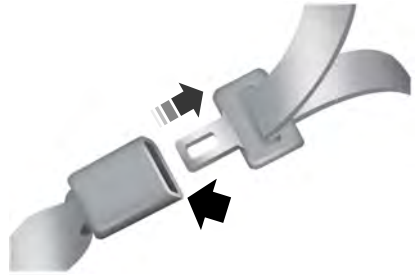
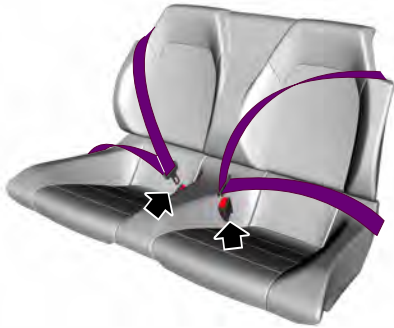
E175163

### Recaro SVT



E216814

# Seatbelts



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

E204921

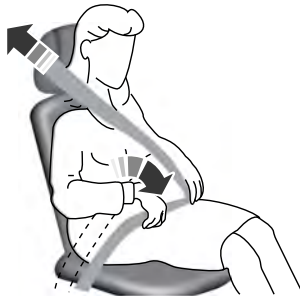


1. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) until you hear a snap and feel it latch. Make sure you securely fasten the tongue in the buckle.

## Using Seatbelts During Pregnancy



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



# Seatbelts

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

## Seatbelt Locking Modes



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

All safety restraints in the vehicle are combination lap and shoulder belts and have vehicle sensitive locking mode. In addition, the front outboard passenger and rear seat seatbelts have the automatic locking mode.

### Vehicle Sensitive Mode

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

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

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

### Automatic Locking Mode

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

### When to Use the Automatic Locking Mode

Use this mode any time a child safety seat, except a booster, is installed in passenger front or rear seating positions. Properly restrain children 12 years old and under in a rear seating position whenever possible. See **Child Safety** (page 25).

### How to Disengage the Automatic Locking Mode

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

## SEATBELT WARNING LAMP AND INDICATOR CHIME



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

# Seatbelts

## Conditions of operation

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

## SEATBELT REMINDER



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

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



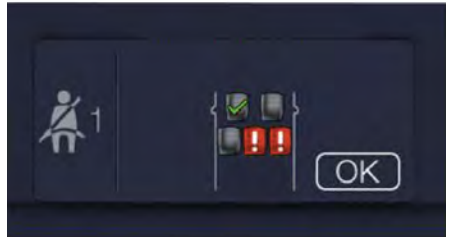
This lamp illuminates and a warning tone sounds if you do not fasten your seatbelt when you switch the ignition on. The lamp and tone switch off when you fasten your seatbelt or about one minute has elapsed.

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

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



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



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

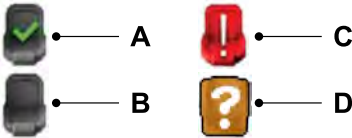
**Note:** If a rear seat is unoccupied, or an occupant never fastens the seatbelt buckle to begin with, the warning will not display.

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

# Seatbelts

## Seatbelt Status

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



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

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



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

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

Read Steps 1 - 4 before starting the procedure.

Make sure that:

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



# Seatbelts

## CHILD RESTRAINT AND SEATBELT MAINTENANCE

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

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

Properly care for seatbelts. See **Vehicle Care** (page 289).

## SEATBELT EXTENSIONS



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



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



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



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



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

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

# Personal Safety System™

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

The Vehicle Personal Safety System consists of:


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


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


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


# Supplementary Restraints System


## PRINCIPLE OF OPERATION


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


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


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


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

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

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

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

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

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

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

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

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

# Supplementary Restraints System

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

Routine maintenance of the airbags is not required.

## DRIVER AND PASSENGER AIRBAGS



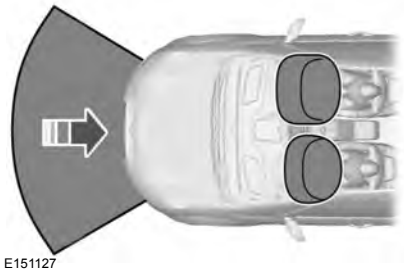
**WARNING:** Do not place your arms on the airbag cover or through the steering wheel. Failure to follow this instruction could result in personal injury.



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



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



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

The driver and passenger front airbag system consists of:

- Driver and passenger airbag modules.
- Front passenger sensing system.
- Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 56).



## Proper Driver and Front Passenger Seating Adjustment



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

To properly position yourself away from the airbag:

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

# Supplementary Restraints System

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

## Children and Airbags

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



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

## FRONT PASSENGER SENSING SYSTEM

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

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

**WARNING:** Do not stow objects in the seatback map pocket or hang objects off a seatback if a child is in the front passenger seat. Do not place objects under the front passenger seat or between the seat and the center console. Check the passenger airbag indicator lamp for proper airbag status. Failure to follow these instructions may interfere with the front passenger seat sensing system and increase the risk of serious injury.

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

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

# Supplementary Restraints System



E253573

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

The indicators are on the overhead console.

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

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

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

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

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

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

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

# Supplementary Restraints System

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

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

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

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

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



Make sure the front passenger sensing system is operating properly. See **Crash Sensors and Airbag Indicator** (page 56).

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

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

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

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

# Supplementary Restraints System

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

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

If it is necessary to modify an advanced front airbag system to accommodate a person with disabilities, contact the Ford Customer Relationship Center. See **Getting the Services You Need** (page 238).

## SIDE AIRBAGS

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

**WARNING:** Do not use accessory seat covers. The use of accessory seat covers may prevent the deployment of the side airbags and increase the risk of injury in an accident.

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

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

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

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

### Coupe





# Supplementary Restraints System

## Convertible



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The system consists of the following:

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



Crash sensors and monitoring system with readiness indicator. See **Crash Sensors and Airbag Indicator** (page 56).

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

## DRIVER AND PASSENGER KNEE AIRBAGS



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



**WARNING:** Close the glove box door when your vehicle is moving. Failure to follow this instruction could reduce the effectiveness of the passenger knee airbag and increase the risk of injury in a crash.

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



Make sure the knee airbags are operating properly. See **Crash Sensors and Airbag Indicator** (page 56).

## SAFETY CANOPY™ - COUPE





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





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

# Supplementary Restraints System

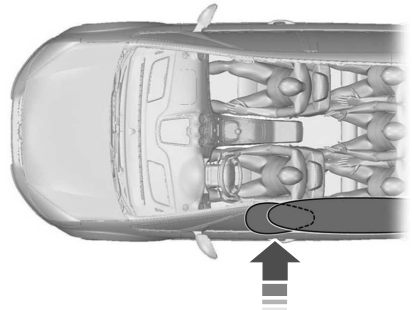
 **WARNING:** Do not attempt to service, repair, or modify the supplementary restraint system or associated components. Failure to follow this instruction could result in personal injury or death.

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

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

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

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



The system consists of the following:

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



• Crash sensors and monitoring system with a readiness indicator. See **Crash Sensors and Airbag Indicator** (page 56).

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

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

# Supplementary Restraints System

## CRASH SENSORS AND AIRBAG INDICATOR



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

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

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

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



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

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

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

The seatbelt pretensioners and the front airbag supplemental restraint system are designed to activate when the vehicle sustains frontal deceleration sufficient to cause the restraints control module to deploy a safety device.

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

- The design of the front airbags is to activate only in frontal and near-frontal crashes (not rollovers, side impacts or rear impacts unless the crash causes sufficient frontal deceleration).
- The design of the seatbelt pretensioners is to activate in frontal, near-frontal, side crashes and rollovers.

# Supplementary Restraints System

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- The knee airbag(s) may deploy based on crash severity and occupant conditions.
- The design of the side airbags is to inflate in certain side crashes. The design of the Safety Canopy is to inflate in certain side impact crashes and when a certain likelihood of rollover is detected by the rollover sensor. Side airbags and Safety Canopy airbags may activate in other types of crashes if the vehicle experiences sufficient sideways motion or deformation.

## **AIRBAG DISPOSAL**

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

# Keys and Remote Controls

## GENERAL INFORMATION ON RADIO FREQUENCIES

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



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

The typical operating range for your transmitter is approximately 33 ft (10 m). Vehicles with the remote start feature will have a greater range.

One of the following could cause a decrease in operating range:

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

The radio frequency used by your remote control can also be used by other radio transmitters, for example amateur radios, medical equipment, wireless headphones, wireless remote controls, cell phones, battery chargers and alarm systems. If the frequencies are jammed, you will not be able to use your remote control. You can lock and unlock the doors with the key.

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

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

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

## Intelligent Access (If Equipped)

The system uses a radio frequency signal to communicate with your vehicle and authorize your vehicle to unlock when one of the following conditions are met:

- You activate the front exterior door handle switch.
- You press the luggage compartment button.
- You press a button on the transmitter.

If excessive radio frequency interference is present in the area or if the transmitter battery is low, you may need to mechanically unlock your door. You can use the mechanical key blade in your intelligent access key to open the driver door in this situation. See **Remote Control** (page 58).

## REMOTE CONTROL

### Intelligent Access Key

**Note:** You may not be able to shift out of park (P) unless the remote control is inside your vehicle.

# Keys and Remote Controls



The remote control operates the power locks and the remote start system. The key must be in your vehicle to use the push button start.

## Removable Key Blade

The remote control also contains a removable key blade that you can use to unlock your vehicle.



Push the release button and pull the key blade out.



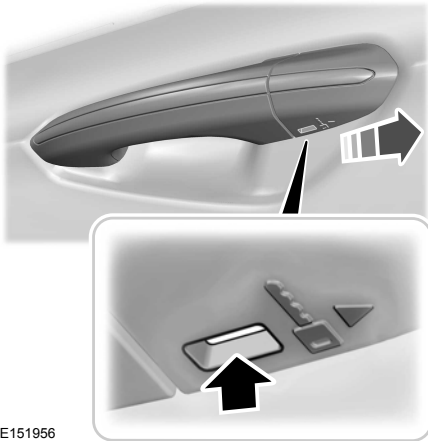
**Note:** *Your vehicle keys came with a security label that provides important key cut information. Keep the label in a safe place for future reference.*

## Using the Key Blade

The key cylinder is under a cap on the driver door handle.

To remove the cap:

# Keys and Remote Controls



E151956

1. Insert the key blade into the slot on the bottom of the handle and apply upward pressure.
2. While maintaining upward pressure, move the cap rearward to release it. Gently remove the key while doing so.

To install the cap:



E151957

1. Place the cap just forward of the key cylinder.
2. Applying pressure to the cap, move it forward until it is in place. You may hear a snap as it engages.

Make sure you have properly installed the cap by trying to move it rearward.

## Replacing the Battery



**WARNING:** Keep batteries away from children to prevent ingestion. Failure to follow this instruction could result in personal injury or death. If ingested, immediately seek medical attention.



**WARNING:** If the battery compartment does not securely close, stop using the remote control and replace it as soon as possible. In the meantime, keep the remote control away from children. Failure to follow this instruction could result in personal injury or death.

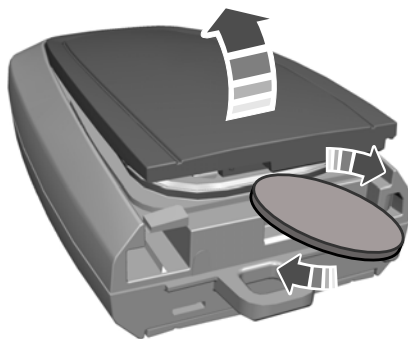
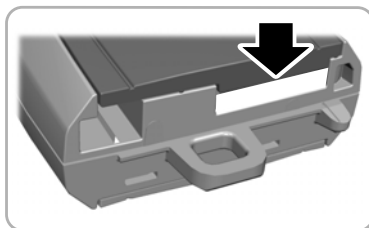
A message appears in the information display when the remote control battery is low. See **Information Messages** (page 113).

The remote control uses one coin-type three-volt lithium battery CR2450 or equivalent.

## Keys and Remote Controls



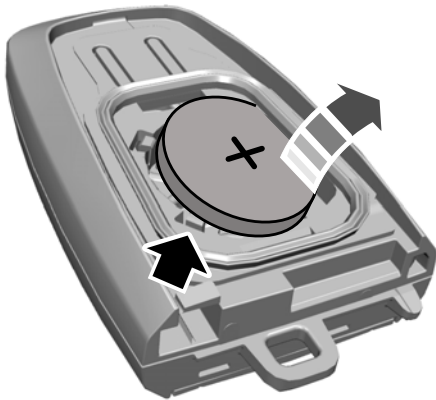
1. Push the release button and pull the key blade out.



2. Twist a thin coin under the tab hidden behind the key blade head to remove the battery cover.



# Keys and Remote Controls



3. Insert a suitable tool, for example a screwdriver, in the position shown and carefully remove the battery.

**Note:** Refer to local regulations when disposing of remote control batteries.

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

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

4. Install a new battery with the + facing upward.
5. Reinstall the battery cover and the key blade.

## Car Finder



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

## Sounding the Panic Alarm



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

**Note:** The panic alarm only operates when the ignition is off.

## Memory Feature

You can program your intelligent access key to recall memory positions. See **Memory Function** (page 137).

## REPLACING A LOST KEY OR REMOTE CONTROL

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

## WHAT IS MYKEY

MyKey allows you to program keys with restricted driving modes to promote good driving habits.

## MYKEY SETTINGS

### NON-CONFIGURABLE MYKEY SETTINGS

#### Seatbelt Reminder or Belt-Minder™

MyKey mutes the audio system until the drivers, and in some instances, passengers, fasten their seatbelts.

**Note:** *If your vehicle includes an AM/FM radio or a very basic audio system, then the radio may not mute.*

#### Satellite Radio (If Equipped)

Satellite radio adult content restrictions.

#### Early Low Fuel

The low fuel level warning lamp turns on earlier.

#### Driving and Parking Aids

Parking aids, blind spot information system and cross traffic alert turn on when you start the engine and cannot be switched off with a MyKey.

Pre-collision assist and lane keeping alert turn on when you start the engine, but can be switched off with a MyKey.

A new destination in the navigation system can only be set using voice commands when using a MyKey, and with your vehicle moving.

**Note:** *MyKey drivers may be able to turn the lane departure warning feature off, but this feature turns back on automatically with every new key cycle.*

## CONFIGURABLE MYKEY SETTINGS

You can configure the following settings after creating a MyKey. See **Creating a MyKey** (page 64).

### Speed Limit



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

You can set a speed limit for your vehicle. Warning messages appear in the information display and a tone sounds if your vehicle reaches the set speed. You cannot override the set speed when using a MyKey.

### Speed Reminder

You can set a speed reminder for your vehicle. Warning messages appear in the information display and a tone sounds if your vehicle exceeds the set speed.

### Audio System Volume Limit

The audio system maximum volume is reduced. A message appears in the information display if you attempt to exceed the volume limit. Automatic volume control turns off.

## Emergency Assistance

If you set emergency assistance to always on, you cannot switch it off with a MyKey.

## Do Not Disturb

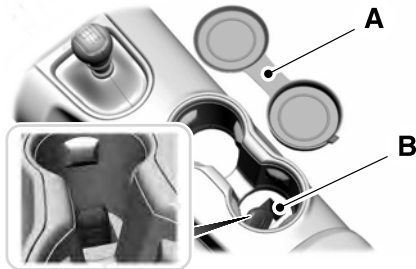
If you set do not disturb to always on, you cannot switch it off with a MyKey.

**Note:** *If a phone is connected using Apple CarPlay or Android Auto while driving with a MyKey, the driver can receive phone calls and text messages even if the do not disturb restriction is on. If the vehicle comes with satellite radio, the adult content is not restricted.*

## Traction Control

If you set traction control to always on, you cannot switch it off with a MyKey.

## CREATING A MYKEY



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1. Remove the rubber covering (A) in the cupholder.
2. Place the remote control in the backup slot (B) with the buttons facing up and the key ring toward the front of your vehicle.
3. Switch the ignition on.
4. Using your touchscreen, press **Menu**.
5. Press **Settings**.

6. Press **Vehicle**.
7. Press **MyKey**.
8. Press **Create MyKey**.
9. Press **Yes** if you want to create the key as MyKey. A confirmation message appears on the screen.
10. Switch the ignition off.

**Note:** *We recommend that you label this key.*

## PROGRAMMING A MYKEY

You can only program each MyKey to the same settings.

1. Switch the ignition on using an admin key.
2. Select **Settings** and press the menu button.
3. Select **Settings**.
4. Select **MyKey**.
5. Select a setting and press the **OK** button.
6. Configure the setting.
7. Switch the ignition off.

## CLEARING ALL MYKEYS

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

1. Switch the ignition on using an admin key.
2. Using your touchscreen, press **Menu**.
3. Press **Settings**.
4. Press **Vehicle**.
5. Press **MyKey**.
6. Press **Clearing All MyKeys**.
7. Press **Yes** to clear all MyKeys from your vehicle.

## CHECKING MYKEY SYSTEM STATUS

You can find information about the distance traveled using a MyKey, and the number of admin keys and MyKeys created for your vehicle.

1. Switch the ignition on.
2. Press **Settings** on the touchscreen.
3. Press **Vehicle Settings**.
4. Press **MyKey**.

5. Press **MyKey Information**.

6. Switch the ignition off.

## USING MYKEY WITH REMOTE START SYSTEMS

MyKey is not compatible with unapproved, aftermarket remote start systems. If you choose to install a remote start system, see an authorized dealer for an approved remote start system.

## MYKEY – TROUBLESHOOTING

### MYKEY – INFORMATION MESSAGES

Message	Description
Place Key in Backup Location	Displays when trying to create a MyKey and there is no admin key in the backup position. See <b>Creating a MyKey</b> (page 64).
Key is Already a MyKey	Displays when trying to create a MyKey with a key already designated as a MyKey.
This Key restricted at Next Key Cycle. Label Key as MyKey	Displays to confirm that you have a restricted key after you switch the ignition off.

## MYKEY – FREQUENTLY ASKED QUESTIONS

### What is an admin key?

- An admin key is a key that you have not created as a MyKey. See **Creating a MyKey** (page 64).

### Why am I not able create a MyKey?

- You did not place the admin key in the backup position. See **Creating a MyKey** (page 64).
- You did not use an admin key to switch the ignition on.
- The key used to switch the ignition on is the only admin key. At least one key needs to remain as an admin key.
- You did not switch the ignition off after creating the last MyKey.

### Why am I not able to program a MyKey?

- The admin key is not inside your vehicle.
- The key used to switch the ignition on is not an admin key.
- You have not created any MyKeys. See **Creating a MyKey** (page 64).

### Why am I not able to clear the MyKeys?

- The admin key is not inside your vehicle.
- The key used to switch the ignition on is not an admin key.
- You have not created any MyKeys. See **Creating a MyKey** (page 64).

### Why is the MyKey distance not accumulating?

- The key used to start the engine is an admin key.
- An admin key and a MyKey are inside your vehicle.
- You have not created any MyKeys. See **Creating a MyKey** (page 64).
- You have cleared the MyKeys.

### Why am I not able to start the engine with a MyKey?

- An admin key and a MyKey are inside your vehicle.

# Doors and Locks

## LOCKING AND UNLOCKING

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

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

### Power Door Locks

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



- A Unlock.
- B Lock.

### Door Lock Indicator

An LED on each door window trim illuminates when you lock the door. It remains on for up to 10 minutes after you switch the ignition off.

### Door Lock Switch Inhibitor

When you electronically lock your vehicle, the power door lock switch no longer operates after 20 seconds. You must unlock your vehicle with the remote control, or switch the ignition on, to restore function to these switches. You can switch this feature on or off in the information display. See **General Information** (page 99).

### Remote Control

You can use the remote control at any time. The luggage compartment release button only works when your vehicle speed is less than 5 mph (8 km/h).

### Unlocking the Doors



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

**Note:** You can unlock the driver door with the key blade if the remote control is not functioning. See **Replacing a Lost Key or Remote Control** (page 62).

**Note:** When you leave your vehicle unattended for several weeks, remote unlocking turns off. Unlock your vehicle using the key blade, then start your vehicle to restore the remote unlocking function.

### Reprogramming the Unlocking Function

You can reprogram the unlocking function so that all doors unlock.

Press and hold both the lock and unlock buttons on the remote control for three seconds to change between driver door or all doors unlock mode. The direction indicators flash twice to confirm the change. Driver door mode only unlocks the driver door when you press the unlock

# Doors and Locks

button once. All door mode unlocks all doors when you press the unlock button once. The unlocking mode applies to the remote control and intelligent access. You can also change between the unlocking modes using the information display. See **General Information** (page 99).

## Locking the Doors



Press the button to lock all doors. The direction indicators flash. Press the button again within three seconds to confirm that all the doors are closed. The doors lock again, the horn sounds and the direction indicators flash if all the doors and the luggage compartment are closed.

## Mislock

If any door or the luggage compartment is open, or if the hood is open on vehicles with an anti-theft alarm or remote start, the horn will sound twice and the direction indicators do not flash. You can switch this feature on or off in the information display. See **General Information** (page 99).

## Opening the Luggage Compartment



Press twice within three seconds to open the luggage compartment.

Make sure to close and latch the luggage compartment before driving your vehicle. Objects may fall from an unlatched luggage compartment. An unlatched luggage compartment may block your rear view.

## Activating Intelligent Access

### General Information

You can unlock and lock the vehicle without taking the keys out of your pocket or purse when your intelligent access key is within 3 ft (1 m) of your vehicle. Intelligent access uses a sensor on the back of the door handle for unlocking and a separate sensor on the face of each door handle for locking.

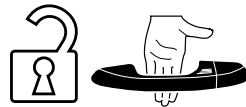
The system does not function if:

- Your vehicle battery has no charge.
- The key battery has no charge.
- The key frequencies are jammed.

**Note:** *The system may not function if the key is close to metal objects or electronic devices, for example keys or a cell phone.*

**Note:** *If the system does not function, use the key blade to lock and unlock your vehicle. See **Remote Control** (page 58).*

### Unlocking Using Intelligent Access



With your intelligent access key within 3 ft (1 m) of your vehicle, touch the unlock sensor on the back of the door handle for a brief period and then pull on the door handle to unlock, being careful to not touch the lock sensor at the same time or pulling the door handle too quickly. The intelligent access system requires a brief delay to authenticate your intelligent access key fob.

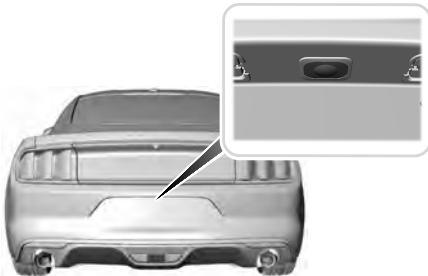
# Doors and Locks

## Locking Using Intelligent Access



With your intelligent access key within 3 ft (1 m) of your vehicle, touch the outer door handle lock sensor for approximately one second to lock, being careful to not touch the unlock sensor on the back of the door handle at the same time. After locking, you can immediately pull on the door handle to confirm locking occurred without inadvertently unlocking.

## Opening the Luggage Compartment



E175208

Press the exterior release button hidden above the license plate.

## Smart Unlocks

This feature helps to prevent you from unintentionally locking your intelligent access key inside your vehicle's passenger compartment or luggage compartment.

When you electronically lock your vehicle with any door open, your vehicle in park and the ignition off, your vehicle searches for an intelligent access key in the passenger compartment after you close the last door. If your vehicle finds a key, all of the doors immediately unlock and the horn sounds twice, indicating that a key is inside.

You can override the smart unlock feature and intentionally lock the intelligent access key inside your vehicle. To do this, lock your vehicle after you have closed all the doors by:

- Pressing the lock button on another intelligent access key.
- Touching the locking area on the handle with another intelligent access key in your hand.

When you open one of the front doors and lock your vehicle using the power door lock control, all doors lock then unlock if:

- The ignition is on.
- The ignition is off and the transmission is not in park (P).

## Autolock

Autolock locks all the doors when:

- All doors are closed.
- The ignition is on.
- You shift into any gear putting your vehicle in motion.
- Your vehicle reaches a speed greater than 12 mph (20 km/h).

Autolock repeats when:

- You open then close any door while the ignition is on and your vehicle speed is 9 mph (15 km/h) or lower.
- Your vehicle reaches a speed greater than 12 mph (20 km/h).



# Doors and Locks

## Autolock

Autolock unlocks all the doors when:

- The ignition is on, you have closed all the doors, and your vehicle has been moving at a speed greater than 12 mph (20 km/h).
- Your vehicle comes to a stop and you switch the ignition off or to the accessory position.
- You open the driver door within 10 minutes of switching the ignition off or to accessory.

**Note:** *The doors do not autolock if you electronically lock your vehicle after you switch the ignition off and before you open the driver door.*

## Enabling or Disabling Autolock

You can enable or disable the autolock feature in the information display or an authorized dealer can do it for you. See **General Information** (page 103).

## Locking and Unlocking the Doors with the Key Blade

Turn the top of the key toward the front of your vehicle once to lock all doors.

Turn the top of the key toward the rear of your vehicle once to unlock the driver door only. See **Remote Control** (page 58).

## Locking the Doors Individually



If the central locking function does not operate, lock the doors individually using the key in the position shown.

### Left-Hand Side

Turn clockwise to lock.

### Right-Hand Side

Turn counterclockwise to lock.

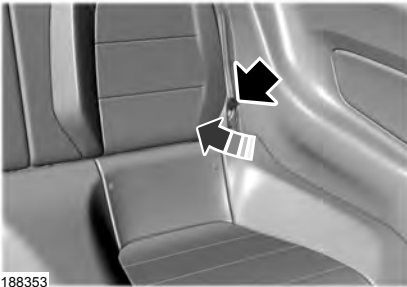
## Unlocking the Doors

If the central locking function does not operate, unlock the driver door and then unlock all other doors individually by pulling the interior door handles.

# Doors and Locks

**Note:** If you have unlocked the doors using this method, you must lock the doors individually to restore the central locking function.

## Unlocking the Luggage Compartment (Convertible Only)



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

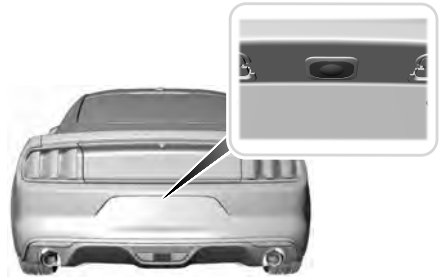
## Opening the Luggage Compartment

### From Inside Your Vehicle



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

### From Outside Your Vehicle



E175208

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 ft (1 m) of the luggage compartment.

### With the Remote Control



Press twice within three seconds to open the luggage compartment.

## Illuminated Entry

The interior lamps and select exterior lamps illuminate when you unlock the doors with the remote entry system.

The illuminated entry system turns off the lights if:

- The ignition is on.
- You press the remote control lock button.
- After 25 seconds of illumination.

The lights do not turn off if:

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

# Doors and Locks

## Illuminated Exit

The interior lamps and select exterior lamps illuminate when all doors are closed and you switch the ignition off.

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

- After 25 seconds elapse.
- You press the **START/STOP** button.

## Battery Saver

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

## Accessory Mode Battery Saver for Intelligent Access Keys

If you leave your vehicle in the run ignition state, it turns off once it detects a certain amount of battery drain or after 45 minutes.

## INTERIOR LUGGAGE COMPARTMENT RELEASE



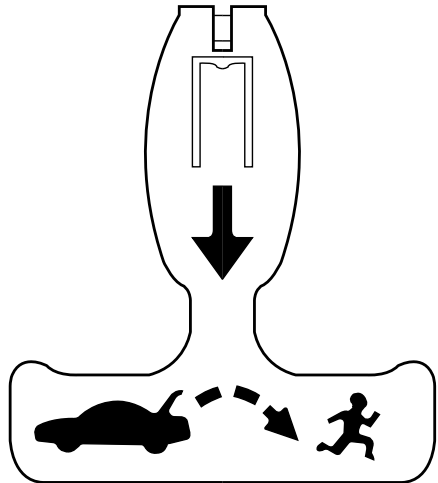
**WARNING:** Keep vehicle doors and luggage compartment locked and keep keys and remote transmitters out of a child's reach. Unsupervised children could lock themselves in the trunk and risk injury. Children should be taught not to play in vehicles.



**WARNING:** Do not leave children or animals unattended in the vehicle. On hot days, the temperature in the trunk or vehicle interior can rise very quickly. Exposure of people or animals to these high temperatures for even a short time can cause death or serious heat-related injuries, including brain damage. Small children are particularly at risk.

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

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



E144403

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

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

# Security

## PASSIVE ANTI-THEFT SYSTEM

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

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

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

## SecuriLock

The system helps prevent your vehicle from starting unless you use a coded key programmed to your vehicle. Using the wrong key may prevent your vehicle from starting. A message may appear in the information display.

If you are unable to start your vehicle with a correctly coded key, it is not operating properly. A message may appear in the information display.

## Automatic Arming

Your vehicle arms immediately after switching the ignition off.

## Automatic Disarming

Switching the ignition on with a coded key disarms your vehicle.

## Replacement Keys

**Note:** *Your vehicle comes equipped with two intelligent access keys.*

The intelligent access key functions as a programmed key that operates the driver door lock and activates the intelligent access with push button start system, as well as a remote control.

If your programmed transmitters are lost or stolen and you do not have an extra coded key, you need to have your vehicle towed to an authorized dealer. You need to erase the key codes from your vehicle and program new coded keys.

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

## Programming a Spare Intelligent Access Key

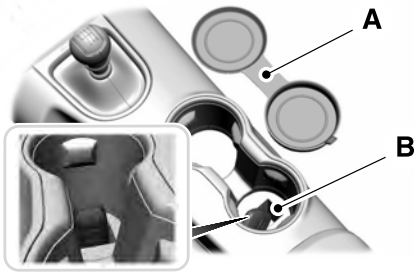
**Note:** *You can program a maximum of four intelligent access keys to your vehicle.*

You must have two previously programmed intelligent access keys inside your vehicle and the new unprogrammed intelligent access keys readily accessible. See an authorized dealer to have the spare key programmed if two previously programmed keys are not available.

Make sure that your vehicle is off before beginning this procedure. Make sure that you close all the doors before beginning and that they remain closed throughout the procedure. Perform all steps within 30 seconds of starting the sequence. Stop and wait for at least one minute before starting again if you perform any steps out of sequence.

Read and understand the entire procedure before you begin.

# Security



E174956

1. Remove the rubber covering (A) from the cupholder. Place the first programmed key in the backup slot (B) at the bottom of the cupholder, then press the push button ignition switch.
2. Wait five seconds and then press the push button ignition switch again.
3. Remove the intelligent access key.
4. Within 10 seconds, place a second programmed intelligent access key in the backup slot. Press the push button ignition switch.
5. Wait five seconds and then press the push button ignition switch again.
6. Remove the intelligent access key.
7. Place the unprogrammed intelligent access key in the backup slot and press the push button ignition switch.

Programming is now complete. Verify the remote control functions operate and your vehicle starts with the new intelligent access key.

If programming was not successful, wait 10 seconds and repeat Steps 1 through 7. If you are still unsuccessful, take your vehicle to your authorized dealer.

## ANTI-THEFT ALARM (IF EQUIPPED)

The system will warn you of an unauthorized entry to your vehicle.

It will be triggered if any door, the luggage compartment or the hood is opened without using the key or remote control.

The direction indicators will flash and the horn will sound if unauthorized entry is attempted while the alarm is armed.

Take all remote controls to an authorized dealer if there is a potential alarm problem with your vehicle.

### Arming the Alarm

The alarm is ready to arm when there is not a key in your vehicle.

Electronically lock your vehicle to arm the alarm.

### Disarming the Alarm

Disarm the alarm by any of the following actions:

- Unlock the doors or luggage compartment with the remote control.
- Switch your vehicle on or start your vehicle.
- Use a key in the driver door to unlock your vehicle, then switch your vehicle on within 12 seconds.

**Note:** *Pressing the panic button on the remote control will stop the horn and signal indicators, but will not disarm the system.*

# Steering Wheel

## ADJUSTING THE STEERING WHEEL



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

**Note:** Make sure that you sit in the correct position. See **Sitting in the Correct Position** (page 134).



E176634

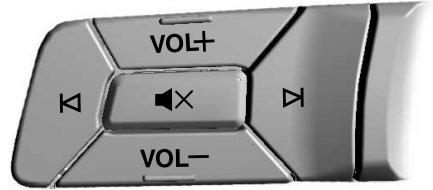
1. Unlock the steering column.
2. Adjust the steering wheel to the desired position.



E176635

3. Lock the steering column.

## AUDIO CONTROL



E286906

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

**VOL**

Press - to decrease volume level.  
Press + to increase volume level.



Press to silence the current media.



Press to access the previous media selection.



Press to access the next media selection.

## VOICE CONTROL

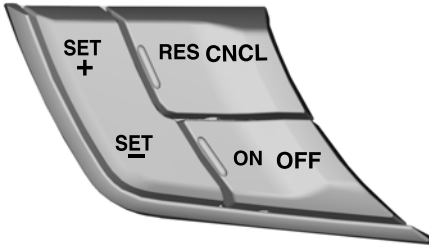
The controls are on the steering wheel.



Press and release to activate voice recognition.

# Steering Wheel

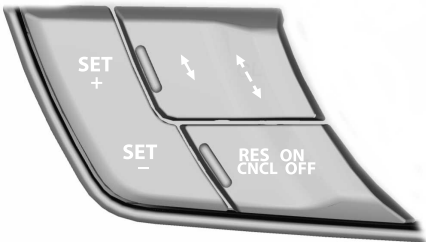
## CRUISE CONTROL - VEHICLES WITH: CRUISE CONTROL



E174594

See **Switching Cruise Control On and Off** (page 184).

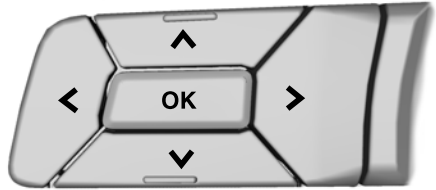
## CRUISE CONTROL - VEHICLES WITH: ADAPTIVE CRUISE CONTROL



E177068

See **Using Adaptive Cruise Control** (page 185).

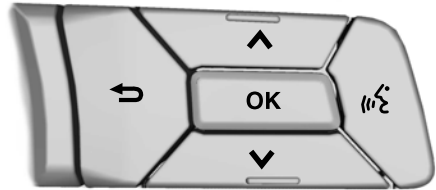
## INFORMATION DISPLAY CONTROL - VEHICLES WITH: SYNC



E174595

See **Information Displays** (page 99).

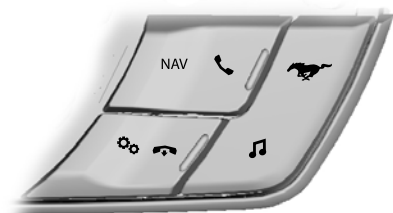
## INFORMATION DISPLAY CONTROL - VEHICLES WITH: SYNC 3



E248474

# Steering Wheel

## Quick Action Menus



E248531

See **Information Displays** (page 99).

## HORN



Press on the center of the steering wheel near the horn icon to activate the horn.

## SWITCHING THE HEATED STEERING WHEEL ON AND OFF

(IF EQUIPPED)



Touch the button to switch the heated steering wheel on and off.

**Note:** You can use the heated steering wheel only when the engine is running.

**Note:** The system uses a sensor and is designed to control the temperature of the steering wheel and to prevent it from overheating.

**Note:** In warm temperatures, the steering wheel quickly reaches its maximum temperature and the system reduces the current to the heating element. This could cause you to think that the system has stopped working but it has not. This is normal.



# Wipers and Washers

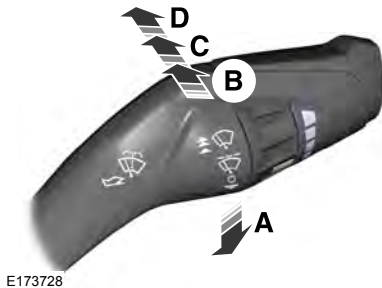
## WINDSHIELD WIPERS

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

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

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

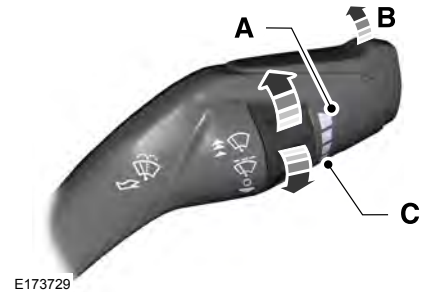
**Note:** Do not operate the wipers on a dry windshield. This may scratch the glass, damage the wiper blades or cause the wiper motor to burn out. Always use the windshield washers before wiping a dry windshield.



E173728

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

## Intermittent Wipe



E173729

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

Use the rotary control to adjust the intermittent wipe interval.

## Speed Dependent Wipers

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

## AUTOWIPERS (IF EQUIPPED)

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

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

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

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

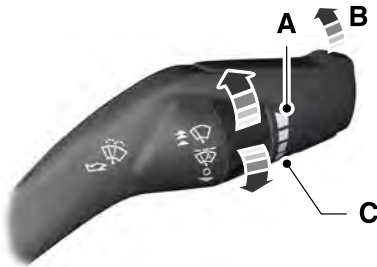
Wet or winter driving conditions with ice, snow or salty road mist can cause inconsistent and unexpected wiping or smearing.

# Wipers and Washers

The feature uses a rain sensor that is in the area around the interior mirror. The rain sensor monitors the amount of moisture on the windshield and turns on the wipers. It adjusts the wiper speed by the amount of moisture that the sensor detects on the windshield. You can switch this feature on and off in the information display. See **Information Displays** (page 99).

In these conditions, you can do the following:

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



E173730

- A Highest sensitivity.
- B On.
- C Lowest sensitivity.

Use the rotary control to adjust the sensitivity of the autowipers. When you select low sensitivity, the wipers operate when the sensor detects a large amount of water on the windshield. When you select high sensitivity, the wipers operate when the sensor detects a small amount of water on the windshield.

Keep the outside of the windshield clean. The rain sensor is very sensitive and the wipers may operate if dirt, mist or insects hit the windshield.

## WINDSHIELD WASHERS

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



E173731

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

# Lighting

## GENERAL INFORMATION

### Condensation in the Exterior Front Lamps and Rear Lamps

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

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

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

Examples of acceptable condensation are:

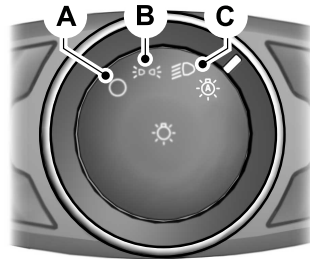
- The presence of a fine mist (no streaks, drip marks or large droplets).
- A fine mist covers less than 50% of the lens.

Examples of unacceptable condensation are:

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

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

## LIGHTING CONTROL



- A Lamps off.
- B Parking lamps, instrument panel lamps, license plate lamps and tail lamps.
- C Headlamps.

### Headlamp High Beam



E162679



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

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

# Lighting

## Flashing the Headlamp High Beam



E162680

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

## AUTOLAMPS



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

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



Switch the lighting control to the autolamps position.

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

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

## Windshield Wiper Activated Headlamps

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

The headlamps do not turn on with the wipers:

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

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

## INSTRUMENT LIGHTING DIMMER

The instrument lighting dimmer buttons are on the lighting control.



Repeatedly press one of the buttons to adjust the brightness.



## HEADLAMP EXIT DELAY

After you switch the ignition off, you can switch the headlamps on by pulling the direction indicator lever toward you. You will hear a short tone. The headlamps will switch off automatically after three minutes with any door open or 30 seconds after the last door has been closed. You can cancel this feature by pulling the direction indicator lever toward you again or switching the ignition on.

# Lighting

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



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

Switch the daytime running lamps on or off using the information display. See **General Information** (page 109).

The daytime running lamps turn on when:

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

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

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

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



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

The system turns the lamps on in daylight conditions.

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

## FRONT FOG LAMPS (IF EQUIPPED)

### Switching the Front Fog Lamps On or Off

Only switch the front fog lamps on during reduced visibility.

You can switch the front fog lamps on if any of the following occur:

- You set the lighting control to the parking lamps position.
- You set the lighting control to the headlamps position.
- You set the lighting control to the autolamps position and the headlamps are on.

The front fog lamp button is on the lighting control.



Press the button to switch the front fog lamps on or off.

# Lighting

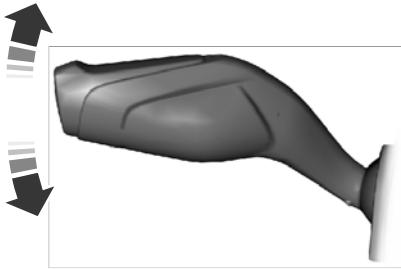
**Note:** The brightness of the daytime running lamps may decrease when the front fog lamps are switched on.

## Front Fog Lamp Indicator



It illuminates when you switch the front fog lamps on.

## DIRECTION INDICATORS



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

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

## WELCOME LIGHTING

The projection lights are on the bottom of the exterior mirror housings. They project an image onto the ground a short distance from your vehicle when welcome lighting or lighted entry turns on.

**Note:** Moisture, frost and ice build-up or other types of contamination on the surface of the light lens can cause non-permanent distortion or reduced brightness of the image. Do not use abrasive materials to clean the lens.

**Note:** For vehicles with manual transmission, you may need to engage the parking brake for this feature to operate.

## INTERIOR LAMPS

The lamps turn on under the following conditions:

- You open any door.
- You press a remote control button.
- You press a map lamp button.

### Map Lamps



E175199

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

Press the button to switch the lamps on or off.

## AMBIENT LIGHTING (IF EQUIPPED)

Adjust the ambient lighting in the information display. See **General Information** (page 99).

# Automatic High Beam Control (If Equipped)

## WHAT IS AUTOMATIC HIGH BEAM CONTROL

The system turns on high beams if it is dark enough and no other traffic is present. If it detects an approaching vehicle's headlamps or tail lamps, or street lighting ahead, the system turns the high beams off. Low beams remain on.

A camera sensor, centrally mounted behind the windshield of your vehicle, continuously monitors conditions to turn the high beams on and off.

## SWITCHING AUTOMATIC HIGH BEAM CONTROL ON AND OFF

Switch the system on or off using the information display. See **General Information** (page 99).

### Activating the Automatic High Beam Control



Switch the lighting control to the autolamps position to activate. See **Autolamps** (page 81).

**Note:** Automatic high beams are not available when autolamps are not turned on.

When active, the high beams turn on if:

- The ambient light level is low enough.
- There is no traffic in front of your vehicle.
- The vehicle speed is greater than approximately 32 mph (52 km/h).

When active, the high beams turn off if:

- The ambient light level is high enough that high beams are not required.
- The system detects an approaching vehicle's headlamps or tail lamps.
- The system detects severe rain, snow or fog.

- The camera is blocked.
- The vehicle speed falls below approximately 27 mph (44 km/h).

**Note:** The deactivation speed is lower on curves.

**Note:** High beam reactivation may be delayed in certain curvy road situations.

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

**Note:** The system may not operate properly in cold or inclement conditions. You can switch on the high beams by overriding the system.

**Note:** If the system detects a blockage, for example bird droppings, bug splatter, snow or ice, the system goes into low beam mode until you clear the blockage. A message may appear in the information display if the camera is blocked.

**Note:** Using much larger tires or equipping vehicle accessories such as snowplows can modify your vehicle's ride height and degrade automatic high beam control performance.

## AUTOMATIC HIGH BEAM CONTROL INDICATORS



The indicator illuminates to confirm when the system is ready to assist.

## OVERRIDING AUTOMATIC HIGH BEAM CONTROL



**WARNING:** The system does not relieve you of your responsibility to drive with due care and attention. You may need to override the system if it does not turn the high beams on or off.

## Automatic High Beam Control (If Equipped)

---



**WARNING:** You may need to override the system when approaching other road users.



**WARNING:** You may need to override the system during inclement weather.



E162679

Push the lever away from you to switch between high beam and low beam.



# Windows and Mirrors

## POWER WINDOWS

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

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



E180087

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

**Note:** Use the singular control (if equipped) to open both rear windows.

Press the control to open the window.

Lift the control to close the window.

### One-Touch Down

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

### One-Touch Up

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

## Bounce-Back

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

### Overriding the Bounce-Back Feature

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

Pull up the window switch and hold within two seconds of the window reaching the bounce-back position. The window will travel up with no bounce-back protection. The window will stop if you release the switch before the window is fully closed.

### Accessory Delay

The window switches remain operational for several minutes when you switch the ignition off or until you open either front door.

## GLOBAL OPENING

You can use the remote control to open the windows with the ignition off.

**Note:** You can enable or disable this feature in the information display, or see an authorized dealer. See **General Information** (page 99).

**Note:** To operate this feature, accessory delay must not be active.

# Windows and Mirrors

## Opening the Windows

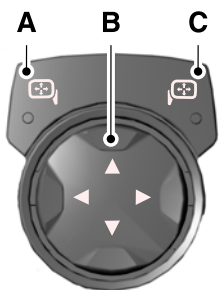
You can open the windows for a short time after you unlock your vehicle with the remote control. After you unlock your vehicle, press and hold the remote control unlock button to open the windows. Release the button once movement starts. Press the lock or unlock button to stop movement.

## EXTERIOR MIRRORS

### Power Exterior Mirrors



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



E176804

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

To adjust a mirror:

1. Select the mirror you want to adjust. The control will illuminate.
2. Adjust the position of the mirror.
3. Press the mirror switch again.

### Fold-Away Exterior Mirrors

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

### Heated Exterior Mirrors (If Equipped)

See **Heated Rear Window** (page 132).

### Memory Mirrors (If Equipped)

You can save and recall the mirror positions through the memory function. See **Power Seats** (page 137).

### Signal Indicator Mirrors (If Equipped)

The outer portion of the appropriate mirror housing will blink when you switch on the turn signal.

### Projection Lights (If Equipped)

The lights are on the bottom of the mirror housings. See **Welcome Lighting** (page 83).

### Integrated Blind Spot Mirrors (If Equipped)

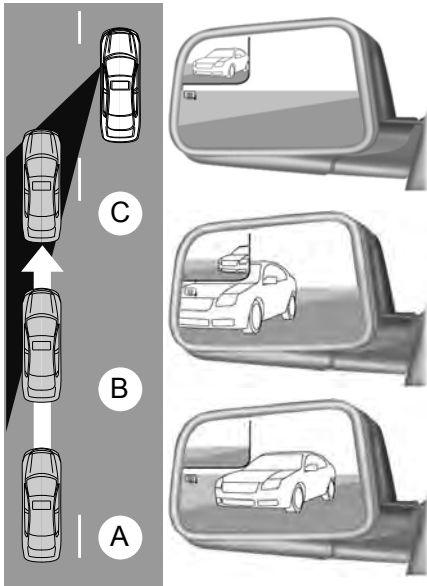


**WARNING:** Objects in the mirror are closer than they appear.

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

Check the main mirror first before a lane change, then check the blind spot mirror. If the blind spot mirror does not show any vehicles in its viewing area and the traffic in the adjacent lane is at a safe distance, signal that you intend to change lanes. Glance over your shoulder to verify traffic is clear and carefully change lanes.

# Windows and Mirrors



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

## Blind Spot Monitor (If Equipped)

See **Blind Spot Information System** (page 196).

## INTERIOR MIRROR

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

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

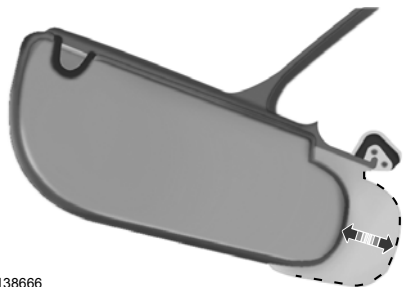
You can adjust the interior mirror to your preference. Some mirrors also have a second pivot point. This lets you move the mirror head up or down and from side to side.

## Auto-Dimming Mirror

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

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

## SUN VISORS



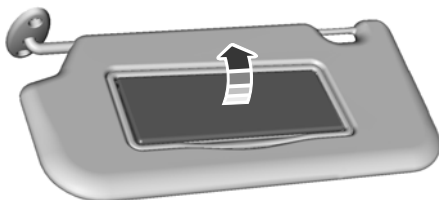
E138666

## Windows and Mirrors

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

### **Illuminated Vanity Mirror**



E162197

Lift the cover to switch the lamp on.

# Instrument Cluster

## GAUGES - MACH 1



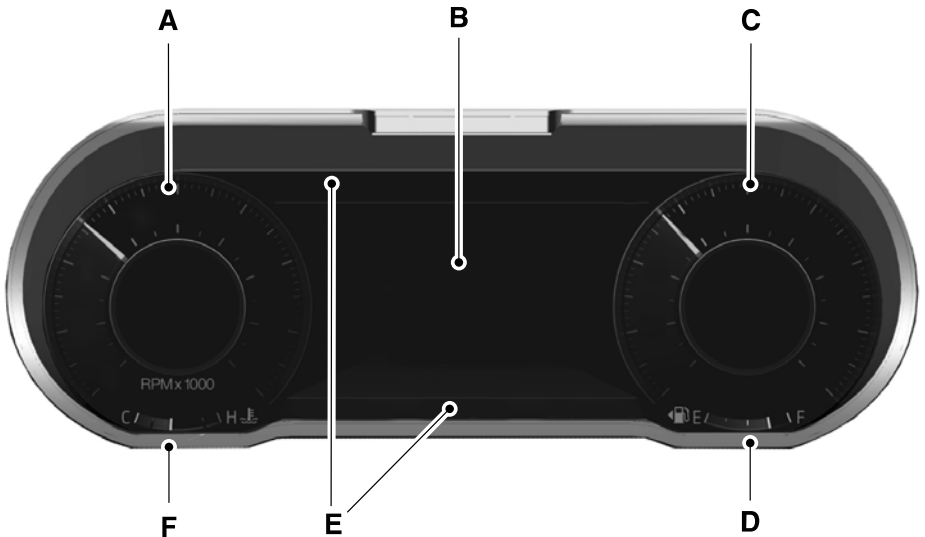
### Oil Pressure Gauge

Indicates the engine oil pressure.

### Vacuum Gauge

Indicates the vacuum or vacuum and boost pressure in the intake.

## GAUGES - VEHICLES WITH: 12.3 INCH INSTRUMENT CLUSTER DISPLAY SCREEN



E270688

# Instrument Cluster

---

- A Tachometer.
- B Information Display.
- C Speedometer.
- D Fuel Gauge.
- E Information Bar
- F Engine Coolant Temperature Gauge.

## Information Display

### Odometer

Located in the bottom of the information display. Registers the accumulated distance your vehicle has traveled.

### Trip Computer

See **General Information** (page 99).

### Vehicle Settings and Personalization

See **General Information** (page 99).

### Fuel Gauge

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

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

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

### Low Fuel Reminder

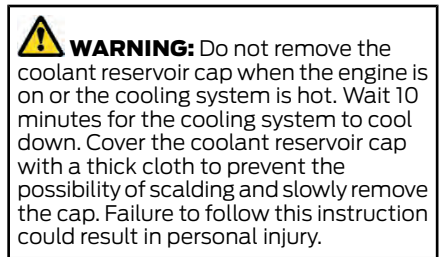
A low fuel level reminder displays and sounds when the distance to empty reaches 75 mi (120 km) to empty for MyKey, and at 50 mi (80 km), 25 mi (40 km), 10 mi (20 km) and 0 mi (0 km) for all vehicle keys.

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

## Information Bar

Displays information such as compass direction, outside air temperature, odometer and transmission gear selector.

### Engine Coolant Temperature Gauge



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

# Instrument Cluster

## Gauge Package (If Equipped)



## Oil Pressure Gauge

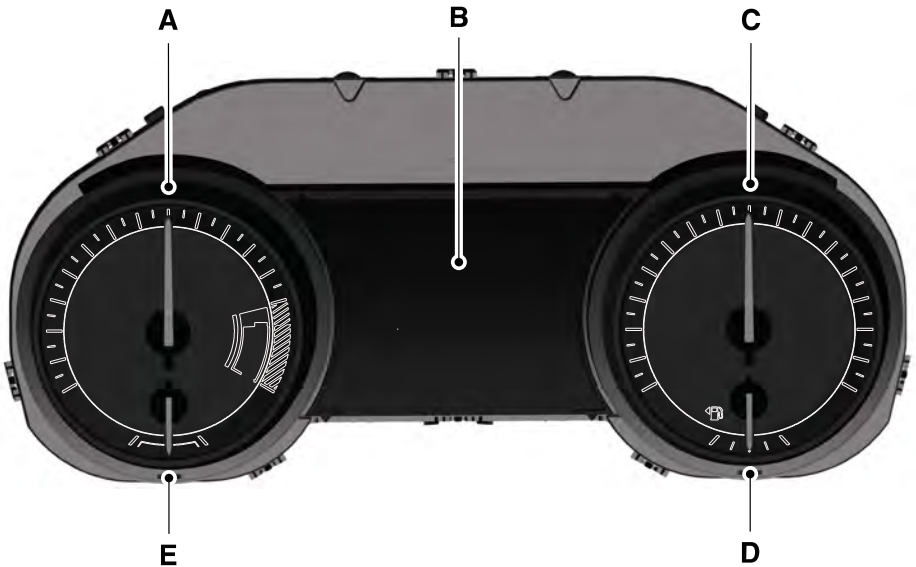
Indicates the engine oil pressure.

## Vacuum or Vacuum and Boost Gauge

Indicates the vacuum or vacuum and boost pressure in the intake.

E196366

## GAUGES - VEHICLES WITH: 4.2 INCH INSTRUMENT CLUSTER DISPLAY SCREEN



E230872

# Instrument Cluster

- A Tachometer.
- B Information Display.
- C Speedometer.
- D Fuel Gauge.
- E Engine Coolant Temperature Gauge.

## Information Display

### Odometer

Located in the bottom of the information display. Registers the accumulated distance your vehicle has traveled.

### Trip Computer

See **General Information** (page 99).

### Vehicle Settings and Personalization

See **General Information** (page 99).

### Fuel Gauge

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

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

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

### Low Fuel Reminder

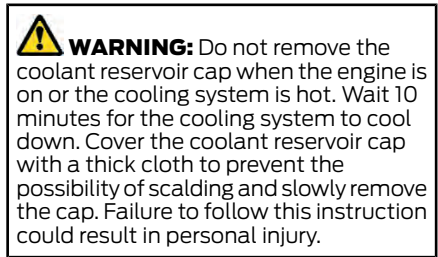
A low fuel level reminder displays and sounds when the distance to empty reaches 75 mi (120 km) to empty for MyKey, and at 50 mi (80 km), 25 mi (40 km), 10 mi (20 km) and 0 mi (0 km) for all vehicle keys.

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

## Information Bar

Displays information such as compass direction, outside air temperature, odometer and transmission gear selector.

### Engine Coolant Temperature Gauge



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



# Instrument Cluster

## Gauge Package (If Equipped)



### Oil Pressure Gauge

Indicates the engine oil pressure.

### Vacuum or Vacuum and Boost Gauge

Indicates the vacuum or vacuum and boost pressure in the intake.

## WARNING LAMPS AND INDICATORS

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

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

### Adaptive Cruise Control Indicator (If Equipped)



It illuminates when you switch the system on.

It illuminates white when the system is in standby mode. It illuminates green when you set the adaptive cruise speed.

See **Using Adaptive Cruise Control** (page 185).

### Airbag Warning Lamp



If it does not illuminate when you switch the ignition on, continues to flash or remains on when the engine is running, this indicates a malfunction. Have your vehicle checked as soon as possible.

### Anti-Lock Brake System Warning Lamp



If it illuminates when you are driving, this indicates a malfunction. Your vehicle continues to have normal braking without the anti-lock brake system function. Have your vehicle checked as soon as possible.

### Automatic Headlamp High Beam Indicator (If Equipped)



It illuminates when the system automatically turns the headlamp high beam on.

See **What Is Automatic High Beam Control** (page 84).

### Battery



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

# Instrument Cluster

## Blind Spot Information System Indicator (If Equipped)



It illuminates when you switch the system off.

See **Blind Spot Information System** (page 196).

## Brake System Warning Lamp



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

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

This lamp is a dual function lamp and will illuminate when:

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



If the lamp illuminates when you are moving, you may have the parking brake applied. Make sure



the parking brake is off. Have your vehicle checked as soon as possible if the lamp continues to illuminate.

## Cruise Control Indicator



It illuminates when you switch the system on.

See **Switching Cruise Control On and Off** (page 184).

## Direction Indicator



It illuminates when the left or right direction indicator or the hazard warning flasher is turned on. Flashes during operation. An increase in the rate of flashing warns of a failed indicator bulb.

## Door Ajar Warning Lamp



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

## Engine Coolant Temperature Warning Lamp



If it illuminates when your vehicle is moving, this indicates that the engine is overheating. Stop your vehicle as soon as it is safe to do so and switch the engine off. Have your vehicle checked as soon as possible.

## Fasten Seatbelt Warning Lamp



It illuminates and a chime sounds until you fasten the seatbelts.

## Front Fog Lamp Indicator (If Equipped)



It illuminates when you switch the front fog lamps on.

## Heads Up Display (If Equipped)



A red beam of lights will illuminate on the windshield in certain instances when using adaptive cruise control or the collision warning system. It will also illuminate momentarily when you start your vehicle to make sure the display works.

# Instrument Cluster

## Headlamp High Beam Indicator



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

## Hood Ajar



It illuminates when the ignition is on and the hood is not completely closed.

## Lane Keeping System Lamp (if

Equipped)



Illuminates when the system activates.

## Launch Control



Illuminates when this feature is ready, including both slip control and engine RPM hold.



Illuminates when only engine RPM hold is active. See **Track Use** (page 276).

## Low Beam Malfunction



Lights when there is a malfunction with the low beam headlamp bulb.

## Low Fuel Level Warning Lamp



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

## Low Tire Pressure Warning Lamp



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

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

## Low Washer Fluid Level Warning Lamp



Illuminates when the washer fluid is low.

## Oil Pressure Warning Lamp



Illuminates when you switch the ignition on.

If it illuminates when the engine is running this indicates a malfunction. Stop your vehicle as soon as it is safe to do so and switch the engine off. Check the engine oil level. If the oil level is sufficient, this indicates a system malfunction. Have your vehicle checked as soon as possible.

See **Engine Oil Check** (page 261).

## Parking Lamps



Illuminate when you switch the parking lamps on.

## Powertrain Fault



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

## Service Engine Soon



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

# Instrument Cluster

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

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

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

See **Catalytic Converter** (page 161).

## Shift Indicator (If Equipped)



Illuminates to inform you that shifting to a higher gear as indicated may give better fuel economy and lower CO<sub>2</sub>

emissions. It will not illuminate during periods of high acceleration, braking or when you press the clutch pedal.

## Stability Control and Traction Control Indicator



Flashes during operation.

If it does not illuminate when you switch the ignition on, or remains on when the engine is running, this indicates a malfunction. Have your vehicle checked as soon as possible.

**Note:** *The system automatically turns off if there is a malfunction.*

See **Using Stability Control** (page 176).

See **Using Traction Control** (page 174).

## Stability Control and Traction Control Off Warning Lamp



Illuminates when you switch the system off.

## Trunk Ajar



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

## AUDIBLE WARNINGS AND INDICATORS

### Keyless Warning Alert

The horn sounds twice when you exit your vehicle with the passive key and your vehicle is in ON, indicating your vehicle is still on. The horn also sounds twice when you exit your vehicle and attempt to lock the doors manually when the passive key is still in the vehicle. The doors will not lock if the passive key remains in the vehicle.

### Headlamps On Warning Tone

Sounds when you remove the key from the vehicle and you have left the headlamps or parking lamps on.

### Parking Brake On Warning Tone

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

# Instrument Cluster

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## **Transmission Not in Park**

Sounds when the gear selector is in any position other than park (P), and you switch the vehicle ignition off or to the accessory position. If the door is ajar, the tone is continuous. Once you close the door, the tone continues for a period of time.

## **Direction Indicator Left On**

Sounds when the direction indicator does not disengage after 2.0 mi (3.2 km) of driving.

## **Beltminder Warning**

Sounds when the system detects an unfastened seatbelt in an occupied seat and your vehicle is moving.

# Information Displays

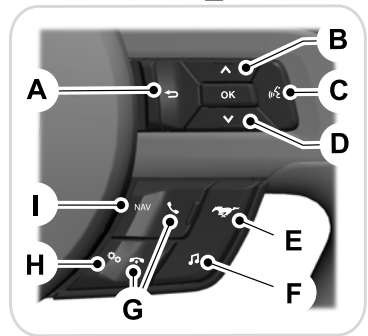
## GENERAL INFORMATION - MACH 1



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

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

## Information Display Controls



E249038

- A Back button.
- B Arrow up.
- C Voice control button.
- D Arrow down.
- E Pony button.
- F Audio button.
- G Phone buttons.
- H Settings button.
- I Navigation button.

- Press one of the quick action menu buttons to enter a menu.
- Toggle **(B)** and **(D)** to scroll through and highlight the options within a menu.

# Information Displays

- Press the **OK** button.
- Press **(A)** to exit a menu.
- Press the open menu's quick action menu button at any time to close the menu.
- Press the **OK** button to choose and confirm settings or messages.

## Settings

<b>Settings</b>	
Trip/Fuel Info	
Driver Assist	Auto Engine Off
	Blindspot
	Pre-Collision Assist
	Cross Traffic Alert
	Cruise Control
	Driver Alert
	Hill Start Assist
	Rear Park Aid
	Lane Keeping System
	Tire Monitor
	Wipers
Speedometer MPH	
Speedometer km/h	
Advanced Settings	Vehicle
	MyKey
	Display Setup

# Information Displays

## Pony



**WARNING: Track Apps™** is for track use only. Remember that even advanced technology cannot defy the laws of physics. It is 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.

Track Apps™ provides a suite of options to record and optimize your track performances. See **Track Use** (page 276).

Pony		
MyMode	Show Status	
	Add MyMode	MyMode must be configured and saved before selection enabled.
Exhaust Mode	Choose your applicable setting. <sup>1</sup>	
	Quiet Start	
Track Apps	Acceleration Timer	
	Brake Performance	
	Line Lock	
	Lap Timer	
	Start Option	
Performance Shift Indicator	Shift Point	
	Shift Tone	
	Shift Light Mode	
Launch Control	Launch Control	
	RPM	
Rev Match		
Gauges	Show Gauges	
	Configure MyGauges	
MyColor	Primary Color	
	Secondary Color	
	Ambient Light	



# Information Displays

Pony	
	Create MyColor
Cluster Appearance	Change with Drive Mode
	Normal
	Sport
	Track

<sup>1</sup> See **Track Use** (page 276).

**Note:** Quiet start allows you to schedule when the exhaust mode turns on the quiet setting. The time window can be from 1 to 24 hours.

**Note:** Depending on your vehicle configuration, some features such as Exhaust Mode and Line Lock may be if equipped.

**Note:** The menu options for Performance Shift Indicator, Launch Control, and Rev Match are for manual transmissions only.

## Phone

See **General Information** (page 392).

## Audio

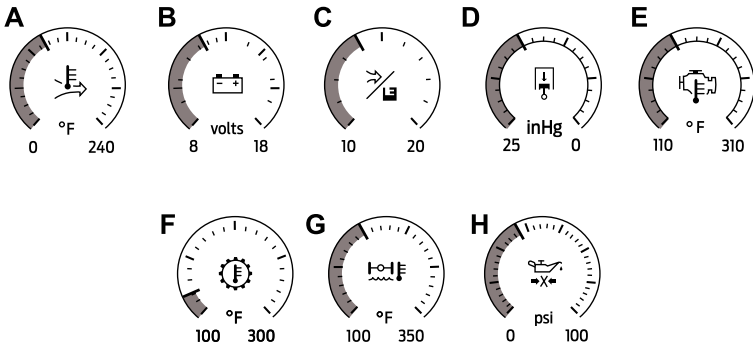
See **General Information** (page 392).

## Navigation (if Equipped)

See **General Information** (page 392).

## Configure MyGauges

When configuring your gauges you can select to display up to three virtual gauges.



- A Inlet air temperature.
- B Battery voltage.
- C Air fuel ratio.

# Information Displays

- D Vacuum.
- E Cylinder head temperature.
- F Transmission oil temperature.
- G Axle temperature.
- H Engine oil pressure.

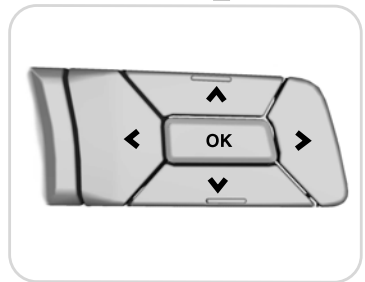
## GENERAL INFORMATION - VEHICLES WITH: 4.2 INCH INSTRUMENT CLUSTER DISPLAY SCREEN



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

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

## Information Display Controls



E249039

- Press the up or down arrow buttons to scroll through the list and highlight the options within a menu.
- Press the right arrow button to enter a sub-menu.
- Press the left arrow button to exit a menu.

# Information Displays

- Press and hold the left arrow button at any time to return to the main menu display (escape button).
- Press the **OK** button to choose and confirm settings or messages.



This icon shows the features on or off status. A check in the box indicates the feature is on, and unchecked indicates the feature is off.

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

## Main Menu

Gauge Mode
Trip/Fuel
Track Apps™
Driver Assist
Settings

## Gauge Mode

<b>Gauge Mode</b>	
Distance to Empty	
<b>Speedometer km/h</b> or <b>Speedometer MPH</b>	
Tire Pressure	
Gauge Detail	Air/Fuel Ratio
	Axle Oil Temp
	Boost/Vacuum
	Cylinder Head Temp
	Inlet Air Temp
	Oil Pressure
	Oil Temp
	Trans Oil Temp

## Information Displays

Gauge Mode	
	Vacuum
	Voltage

- **Air/Fuel Ratio** - Displays the current air to fuel mixture in the engine.
- **Axle Oil Temp** - Displays the axle's oil temperature.
- **Boost/Vacuum** - Displays the vacuum or boost pressure for the 2.3L engine.
- **Cylinder Head Temp** - Displays the engine's cylinder head temperature.
- **Inlet Air Temp** - Displays the temperature of the air in the cold air inlet tube.
- **Oil Pressure** - Displays the engine oil pressure.
- **Oil Temp** - Displays the engine oil temperature. If the temperature rises to the red area, stop in a safe place and let your vehicle cool. If the problem persists, see an authorized dealer.
- **Trans Oil Temp** - Displays the transmission fluid operating temperature. If the temperature rises to the red area, stop in a safe place and let the transmission cool. If the problem persists, see an authorized dealer.
- **Vacuum** - Displays the vacuum pressure for the 5.0L engine.
- **Voltage** - Displays your vehicle's battery voltage. If the voltage is consistently too high or very low, contact an authorized dealer.

**Note:** *In order to provide real-time values, some gauges may display more value fluctuation than other gauges during normal operation.*

### Trip/Fuel

Trip/Fuel	
Trip 1 or Trip 2 - Trip timer, Trip distance, distance to E and avg mpg	
Fuel Economy	Instant fuel economy
	AVG MPG
	mi to E
Fuel History	Last 30 minutes

# Information Displays


Trip/Fuel	
	AVG MPG
	mi to E

- Trip Timer - Registers the time of individual journeys.
- Trip Distance - Registers the distance of individual journeys.
- Distance to E - Shows the approximate distance your vehicle can travel before running out of fuel.
- Avg MPG - Shows the average fuel usage based on time.
- Instant fuel economy - Shows your instantaneous fuel usage.
- Fuel History - Shows fuel usage as a bar graph based on time. The graph is updated each minute with the fuel economy that you achieved during 30 minutes of driving.

**Note:** Press and hold **OK** to reset the currently displayed information.

## Track Apps™

**Track Apps™** provides a suite of options to record and optimize your track performances. See **Track Use** (page 276).



**WARNING:** **Track Apps™** is for track use only. Remember that even advanced technology cannot defy the laws of physics. It is 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.

Track Apps™	
Status Screen	
Accelerometer	Virtual gauge shown
Acceleration Timer	Select your speed, distance and start settings
Brake Performance	Choose your applicable setting.
Exhaust Mode	Choose your applicable setting.
	Quiet Start
Line Lock	

# Information Displays

<b>Track Apps™</b>	
Lap Timer	Track (XXX)
Launch Control	Launch Control
	RPM
Rev Match	
View/Clear Results	Acceleration Timer
	Brake Performance
	Lap Timer
	All Time Best
	Clear Saved Data
	Clear All Time Best
	Clear Accel.

## Driver Assist

<b>Driver Assist</b>	
AdvanceTrac	
Auto Engine Off	
Blindspot	
Driver Alert	
Pre-Collision Assist	Sensitivity
	Active Braking
	Distance Indication
Cross Traffic Alert	
Rear Park Aid	
Cruise Control	Choose your applicable setting.
Hill Start Assist	

# Information Displays

Driver Assist	
Lane Keeping Assist	Mode
	Intensity
Tire Monitor	Hold <b>OK</b> to Reset

## Settings

Settings		
Vehicle	Alarm	Choose your applicable setting.
	Easy Entry/Exit	
	Lighting	Choose your applicable setting.
	Locks	
	Oil Life Reset	Percent Oil Life XXX% Hold OK to Reset
	Park Lock Control	
	Remote Start	Choose your applicable setting.
	Tire Mobility Kit	
	Windows	
	Wipers	
MyColor	Gauge Color	Choose your applicable setting.
	Halo	
	Ambient Light	
	Set MyColor	
MyKey	MyKey Status	Displays the status of MyKeys, Admin Keys and MyKey distance.
	Create MyKey	Hold OK to Create MyKey
	911 Assist	Choose your applicable setting.
	AdvanceTrac	
	Do Not Disturb	

# Information Displays

Settings		
	Max Speed	
	Speed Minder	
	Volume Limiter	
	Clear MyKeys	
Display Setup	Distance	Choose your applicable setting.
	Temperature	
	Tire Pressure	
	Language	

<sup>1</sup> See **Track Use** (page 276).

**Note:** **Quiet Start** allows you to schedule when the **Exhaust Mode** turns on the **Quiet** setting. The time window can be from 1 to 24 hours.

## GENERAL INFORMATION - VEHICLES WITH: 12.3 INCH INSTRUMENT CLUSTER DISPLAY SCREEN

### Information Display Controls

You can control various systems on your vehicle using the information display controls on the steering wheel.

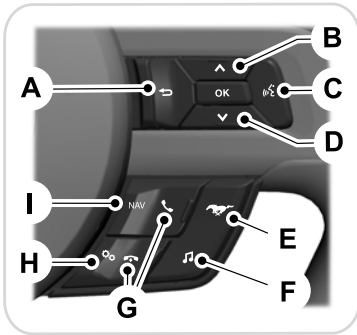


**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use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

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



# Information Displays



E249038

- A Back button.
- B Arrow up.
- C Voice control button.
- D Arrow down.
- E Pony menu button.
- F Audio menu button.
- G Phone buttons.
- H Settings menu button.
- I Navigation menu button.

- Press one of the menu buttons to enter a menu.
- Toggle **(B)** and **(D)** to scroll through and highlight the options within a menu.
- Press the **OK** button.
- Press **(A)** to exit a menu.
- Press the open menu's button at any time to close the menu (escape button).
- Press the **OK** button to choose and confirm settings or messages.

## Settings


<b>Settings</b>	
Trip/Fuel Info	
Driver Assist	Auto Engine Off
	Blindspot
	Pre-Collision Assist
	Cross Traffic Alert
	Cruise Control
	Driver Alert
	Hill Start Assist
	Rear Park Aid

# Information Displays

Settings	
	Lane Keeping System
	Tire Monitor
	Wipers
Speedometer MPH	
Speedometer km/h	
Advanced Settings	Vehicle
	MyKey
	Display Setup

## Pony

Track Apps™ provides a suite of options to record and optimize your track performances. See **Track Use** (page 276).



**WARNING:** *Track Apps™* is for track use only. Remember that even advanced technology cannot defy the laws of physics. It is 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.

Pony	
MyMode	Show Status
	Add MyMode
Exhaust Mode	Choose your applicable setting. <sup>1</sup>
	Quiet Start
Track Apps	Acceleration Timer
	Brake Performance
	Line Lock

## Information Displays

Pony	
	Lap Timer
	Start Option
Performance Shift Indicator	Shift Point
	Shift Tone
	Shift Light Mode
Launch Control	Launch Control
	RPM
Rev Match	
Gauges	Show Gauges
	Configure MyGauges
MyColor	Primary Color
	Secondary Color
	Ambient Light
	Create MyColor
Cluster Appearance	Change with Drive Mode
	Normal
	Sport
	Track

<sup>1</sup> See **Track Use** (page 276).

**Note:** Quiet start allows you to schedule when the exhaust mode turns on the quiet setting. The time window can be from 1 to 24 hours.

**Note:** Depending on your vehicle configuration, some features such as Exhaust Mode and Line Lock may be if equipped.

**Note:** The menu options for Performance Shift Indicator, Launch Control, and Rev Match are for manual transmissions only.

### Phone

See **General Information** (page 392).

### Audio

See **General Information** (page 392).

### Navigation (If Equipped)

See **General Information** (page 392).

# Information Displays

## INFORMATION MESSAGES

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

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

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

## Adaptive Cruise Control

Message	Action
Adaptive Cruise Malfunction	A radar malfunction is preventing the adaptive cruise control from engaging. See <b>Using Adaptive Cruise Control</b> (page 185).
Adaptive Cruise Not Available	A condition exists such that the adaptive cruise cannot function properly. See <b>Using Adaptive Cruise Control</b> (page 185).
Adaptive Cruise Not Available Sensor Blocked See Manual	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. See <b>Using Adaptive Cruise Control</b> (page 185).
Normal Cruise Active Automatic Braking Turned Off	The system has disabled the automatic braking.
Front Sensor Not Aligned	A radar malfunction is preventing the adaptive cruise control from engaging.
Adaptive Cruise - Driver Resume Control	The adaptive cruise has reinstated controls to you.
Adaptive Cruise Speed Too Low to Activate	Your vehicle speed is too slow to activate the adaptive cruise.
Adaptive Cruise Shift Down	The adaptive cruise is automatically adjusting the gap distance and you need to shift the transmission into a lower gear.

# Information Displays

## Airbag

Message	Action
Occupant Sensor BLOCKED Remove Objects Near Passenger Seat	The system detects a malfunction due to a blocked sensor. Remove blockage.

## Alarm

Message	Action
Vehicle Alarm To Stop Alarm, Start Vehicle.	Alarm triggered due to unauthorized entry. See <b>Anti-Theft Alarm</b> (page 74).
Alarm All Sensors Perimeter Sensing	All perimeter sensors are active. See <b>Anti-Theft Alarm</b> (page 74).

## Battery and Charging System

Message	Action
Check Charging System	The charging system needs servicing. If the warning stays on or continues to come on, have the system checked as soon as possible.
Charging System Service Soon	The charging system needs servicing. If the warning stays on or continues to come on, have the system checked as soon as possible.
Charging System Service Now	The charging system needs servicing. Have the system checked as soon as possible.

## Information Displays

Message	Action
Battery State of Charge Low	The battery management system determines that the 12V battery is at a low state of charge. Start the engine to charge the battery or charge the battery using an aftermarket battery charger. This message clears once you restart your vehicle and the battery state of charge has recovered.
Low Battery Features Temporarily Turned Off	The battery management system detects an extended low-voltage condition. Your vehicle disables various features 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 operate again as normal.
Turn Power Off To Save Battery	The battery management system determines that the battery is at a low state of charge. Turn your ignition off as soon as possible to protect the battery. This message clears once you restart your vehicle and the battery state of charge has recovered. Turning off unnecessary electrical loads allow faster battery state-of-charge recovery.

## Blind Spot Information and Cross Traffic Alert System

Message	Action
Blindspot System Fault	A fault with the system has occurred. Have the system checked as soon as possible.
Blindspot Not Available Sensor Blocked See Manual	The system sensors are blocked. See <b>Blind Spot Information System</b> (page 196).
Cross Traffic Not Available Sensor Blocked See Manual	The blind spot information system and cross traffic alert system sensors are blocked. See <b>Blind Spot Information System</b> (page 196).
Cross Traffic System Fault	A fault with the system has occurred. Have the system checked as soon as possible.

# Information Displays

## Doors and Locks

<b>Message</b>	<b>Action</b>
Driver Door Ajar	The driver door is not completely closed.
Passenger Door Ajar	The passenger door is not completely closed.
Trunk Ajar	The trunk is not completely closed.
Hood Ajar	The hood is not completely closed.
Switches Inhibited Security Mode	The system has disabled the door switches.

## Drive Control

<b>Message</b>	<b>Action</b>
Drive Mode Not Available	Indicates that one or more of the conditions required to change drive modes has a fault. If issues persist see your authorized dealer.

## Electronic Stability Control

<b>Message</b>	<b>Action</b>
Service AdvanceTrac	The system detects a malfunction due to a blocked sensor.
AdvanceTrac Off	The status of the system after you switch it off.
AdvanceTrac On	The status of the system after you switch it on.
AdvanceTrac SPORT MODE	The system is in sport mode.

## Engine

<b>Message</b>	<b>Action</b>
Power Reduced to Lower Engine Temp	The engine is overheating and the power has been reduced to assist in lowering the temperature. Stop in a safe place as soon as it is possible.

# Information Displays

## Exhaust Mode

Message	Action
For Track Use See Manual	Indicates that the exhaust state selected, through the menu or drive mode selection, is for use on the track and may not comply with local noise regulations. Only on vehicles with active exhaust.

## Fuel

Message	Action
Fuel Level Low	An early reminder of a low fuel condition.
Check Fuel Fill Inlet	The fuel fill inlet may not be properly closed.

## Hill Start Assist

Message	Action
Hill Start Assist Not Available	Hill start assist is not available. Have the system checked. See <b>Hill Start Assist</b> (page 173).

## Keys and Passive Key

Message	Action
To START Press Brake	A reminder to press the brake while starting the vehicle.
To START Press Clutch	A reminder to depress the clutch pedal on manual transmission while starting the vehicle.
No Key Detected	The system does not detect a key in your vehicle. See <b>Keyless Starting</b> (page 147).
Restart Now or Key is Needed	You pressed the start/stop button to switch off the engine and your vehicle does not detect your passive key inside your vehicle.
Accessory Power is Active	Your vehicle is in the accessory ignition state.
Starting System Fault	There is a problem with your vehicle's starting system. See an authorized dealer for service.



## Information Displays

Message	Action
Key Program Successful	You have successfully programmed a passive key to the system.
Key Program Failure	You have failed to program a passive key to the system.
Max Number of Keys Learned	You have programmed the maximum number of keys to the system.
Not Enough Keys Learned	You have not programmed enough keys to the system.
Key Battery Low Replace Soon	The key battery is low. Change the battery as soon as possible.
Engine ON	Inform the driver that they are exiting the vehicle and the engine is on.

## Maintenance

Message	Action
Low Engine Oil Pressure	Stop your vehicle as soon as safely possible and turn off the engine. Check the oil level. If the warning stays on or continues to come on with your engine running, have the system checked as soon as possible.
Change Engine Oil Soon	The engine oil life remaining is 10% or less.
Oil Change Required	The oil life left is at 0%.
Brake Fluid Level Low	The brake fluid level is low, inspected the brake system immediately. See <b>Brake Fluid Check</b> (page 269).
Check Brake System	The brake system needs servicing. Stop your vehicle in a safe place. Have the system checked.
Transport Mode Contact Dealer	Indicates that your vehicle is still in Transport mode. This may not allow some features to operate properly. Have the system checked.
Factory Mode Contact Dealer	Indicates that your vehicle is still in Factory mode. This may not allow some features to operate properly. Have the system checked.
See Manual	The powertrain needs service due to a powertrain malfunction.

# Information Displays

## MyKey

Message	Action
MyKey not Created	You cannot program a MyKey.
MyKey Active Drive Safely	MyKey is active.
Speed Limited to XX MPH/km/h	When switching on your vehicle and MyKey is in use, displays that the MyKey speed limit is on.
Near Vehicle Top Speed	MyKey is in use and the MyKey speed limit is on and the vehicle speed is approaching 80 mph (130 km/h).
Vehicle at Top Speed of MyKey Setting	You have reached the speed limit set for your MyKey.
Check Speed Drive Safely	You have an active MyKey with a programmed set speed limit.
Buckle Up to Unmute Audio	Belt-Minder turns on with a MyKey in use.
AdvanceTrac On - MyKey Setting	With a MyKey in use, AdvanceTrac turns on.
Traction Control On - MyKey Setting	With a MyKey in use, traction control turns on.
MyKey Park Aid Cannot be Deactivated	With a MyKey in use, park aid is always on.

## Park Aid

Message	Action
Check Rear Park Aid	Displays when the system requires service, have the system checked as soon as possible. See <b>Rear Parking Aid</b> (page 179).
Rear Park Aid On Off	Displays the park aid status.

# Information Displays

## Park Brake

Message	Action
Park Brake Engaged	You have set the parking brake and you have driven the vehicle more than 3 mph (5 km/h). If the warning stays on after you have released the parking brake, have the system checked.

## Pre-Collision Assist

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

## Rear Axle

Message	Action
Axle Over Temperature Reduce Speed	This message appears when the oil temperature in the rear differential exceeds a safe limit. Reduce speed to allow the oil temperature to return to normal levels.

## Remote Start

Message	Action
To Drive: Press Brake and Start Button	A reminder to apply the brake and push the start button to drive your vehicle after a remote start.
To Drive: Press Start Button	A reminder to push the start button to drive your vehicle after a remote start.

# Information Displays

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## Seats

<b>Message</b>	<b>Action</b>
Memory Recall Not Permitted While Driving	A reminder that memory seats are not available while driving.
Memory {0} Saved	Shows where you have saved your memory setting.

## Starting System

<b>Message</b>	<b>Action</b>
To START Press Brake	A reminder to apply the brake when starting your vehicle.
To START Press Clutch	A reminder to apply the clutch when starting your vehicle.
Cranking Time Exceeded	The starter has exceeded its cranking time in attempting to start your vehicle.
Engine Start Pending Please Wait	The starter is attempting to start your vehicle.
Pending Start Cancelled	The system has cancelled the pending start.

# Information Displays

## Steering System

Message	Action
Steering Fault Service Now	The power steering system has detected a condition that requires service. See an authorized dealer.
Steering Loss Stop Safely	The power steering system is not working. Stop your vehicle in a safe place. Have the system checked.
Steering Assist Fault Service Required	The power steering system has detected a condition within the power steering system or passive entry or passive start system requires service. Have the system checked.
Steering Lock Malfunction Service Now	The steering lock system has detected a condition that requires service. Have the system checked.
Steering Column Lock Remove and re-insert key while turning wheel to unlock	You need to turn your steering wheel while start your vehicle to unlock your steering column.

## Suspension System

Message	Action
Suspension Fault Speed Limited to XX MPH/km/h	Displays if the adaptive damping system detects a condition that requires service. Your vehicle speed is limited to 80 mph (130 km/h). Have your vehicle serviced soon.

## Tire Mobility Kit

Message	Action
Service Tire Mobility Kit	This message appears when the tire sealing compound in the Temporary Mobility Kit expires and you need to replace it. When you replace the sealing compound you can reset any warning messages through your settings menu. See <b>General Information</b> (page 99).

# Information Displays

## Tire Pressure Monitoring System

Message	Action
Tire Pressure Low	One or more tires on your vehicle has low tire pressure. See <b>Tire Pressure Monitoring System</b> (page 324).
Tire Pressure Monitor Fault	The tire pressure monitoring system is malfunctioning. If the warning stays on or continues to come on, have the system checked. See <b>Tire Pressure Monitoring System</b> (page 324).
Tire Pressure Sensor Fault	A tire pressure sensor is malfunctioning or your spare tire is in use. See <b>Tire Pressure Monitoring System</b> (page 324). If the warning stays on or continues to come on, have the system checked as soon as possible.

## Traction Control

Message	Action
Traction Control Off	The status of the system after you switched it off.
Traction Control On	The status of the system after you switched it on.
Spinout Detected Hazards Activated	The system detects a spinout and turns on the hazard flashers.

## Transmission

Message	Action
Transmission Malfunction Service Now	Have the system checked.
Transmission Service Required	Have the system checked.
Transmission Not in Park	A reminder to shift into park.

# Remote Start (If Equipped)

## WHAT IS REMOTE START

The system allows you to remotely start your vehicle and therefore to heat or cool the interior to a predetermined temperature.

## REMOTE START LIMITATIONS

Remote start does not work under the following conditions:

- The alarm horn is sounding.
- The hood is open.
- The transmission is not in park (P).
- The ignition is on.
- The battery voltage is below the minimum operating voltage.

**Note:** Do not use remote start if your fuel level is low.

## ENABLING REMOTE START

1. Press **Settings** on the touchscreen.
2. Press **Vehicle Settings**.
3. Press **Remote Start Setup**.
4. Switch **Remote Start** on or off.

**Note:** To remote start with FordPass, make sure that the modem is enabled. See **Connecting FordPass to the Modem** (page 360).

## REMOTELY STARTING THE ENGINE



**WARNING:** Do not start the engine in a closed garage or in other enclosed areas. Exhaust fumes are toxic. Always open the garage door before you start the engine. Failure to follow this instruction could result in personal injury or death.

To start the engine, do the following:



Press the button on the remote control.



Within three seconds, press the button on the remote control.

Within three seconds, press the button again.

**Note:** You can also use the FordPass app to start the engine.

**Note:** The turn signals flash twice.

**Note:** The parking lamps turn on when the engine is running.

**Note:** The horn sounds if the system fails to start.

**Note:** All other vehicle systems remain off when you have remotely started the engine.

**Note:** The vehicle remains secured when you have remotely started the engine. A valid key must be inside your vehicle to switch the ignition on and drive your vehicle.

## EXTENDING THE REMOTE START DURATION

To extend the engine running duration during remote start, do the following:



Press the button on the remote control.

## Remote Start (If Equipped)



Within three seconds, press the button on the remote control.

Within three seconds, press the button again.

**Note:** You can extend the engine running duration to a maximum of 30 minutes.

### REMOTELY STOPPING THE ENGINE

Use the FordPass App to stop the engine.

### REMOTE START REMOTE CONTROL INDICATORS

#### Remote Control Feedback

An LED on the remote control provides status feedback of remote start or stop commands.

LED	Status
Solid green.	Remote start successful.
Solid red.	Remote stop successful.
Blinking red.	Request failed or status not received.
Blinking green.	Status incomplete.

### REMOTE START SETTINGS

#### SWITCHING CLIMATE CONTROL AUTO MODE ON AND OFF

- Using the information display controls on the steering wheel, select **Settings**.
- Select **Vehicle**.
- Select **Remote Start**.
- Select **Climate Control**.

- Switch **Auto** on or off.

**Note:** If you switch the auto mode on, the system attempts to heat or cool the interior to 72°F (22°C).

**Note:** When you switch the ignition on, the climate control system returns to the last used settings.

**Note:** The heated windshield, heated rear window, heated mirrors, heated seats and heated steering wheel could turn on in cold weather.

#### SWITCHING CLIMATE CONTROL LAST SETTINGS ON AND OFF

- Using the information display controls on the steering wheel, select **Settings**.
- Select **Vehicle**.
- Select **Remote Start**.
- Select **Climate Control**.
- Switch **Last Settings** on or off.

**Note:** If you switch the last settings on, the system remembers the last used settings.

#### SWITCHING THE HEATED SEAT SETTINGS ON AND OFF

- Using the information display controls on the steering wheel, select **Settings**.
- Select **Vehicle**.
- Select **Remote Start**.
- Select **Front Seats**.
- Select **Auto** or **Off**.

**Note:** If you switch the heated seat settings on, the heated seats turn on during cold weather.

**Note:** You cannot adjust the heated seat settings when you have remotely started the engine.



## Remote Start (If Equipped)

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### SWITCHING THE HEATED STEERING WHEEL SETTINGS ON AND OFF

1. Using the information display controls on the steering wheel, select **Settings**.
2. Select **Vehicle**.
3. Select **Remote Start**.
4. Select **Front Seats & Wheel**.
5. Select **Auto** or **Off**.

**Note:** *If you switch the heated steering wheel settings on, the heated steering wheel turns on during cold weather.*

**Note:** *You cannot adjust the heated steering wheel settings when you have remotely started the engine.*

### SETTING THE REMOTE START DURATION

You can set a duration for the vehicle to run.

**Note:** *Wait a few seconds before remotely starting the engine after the engine stops running.*

1. Using the information display controls on the steering wheel, select **Settings**.
2. Select **Vehicle**.
3. Select **Remote Start**.
4. Select **Duration**.

# Climate Control

## MANUAL CLIMATE CONTROL



E287201

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

### Directing the Airflow



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



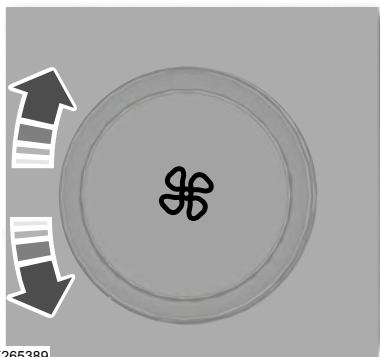
Press and release the button to direct airflow to the instrument panel air vents.



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

You can direct air through the windshield and footwell air vents or the instrument panel and footwell air vents at the same time.

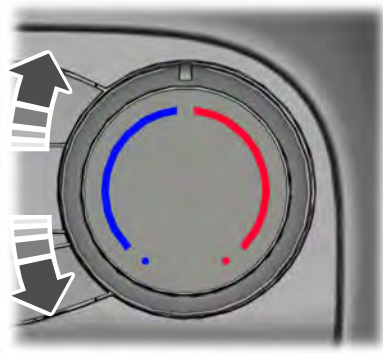
## Setting the Blower Motor Speed



E265389

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

## Setting the Temperature



Turn the control to set the temperature.

## Switching the Air Conditioning On and Off



Press and release the button.

# Climate Control

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

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

## Switching the Climate Control On and Off



Press and release the button.

## Switching Maximum Air Conditioning On and Off



Turn the temperature control counterclockwise to the lowest setting.

**Note:** *Recirculated air flows through the instrument panel air vents, air conditioning turns on and the blower motor adjusts to the highest speed.*

## Switching Maximum Defrost On and Off



Turn the temperature control clockwise to the highest setting.

**Note:** *Air flows through the windshield air vents, and the blower motor adjusts to the highest speed.*

You can also use this setting to defog and clear the windshield of a thin covering of ice. The heated rear window also turns on when you select maximum defrost.

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

## Switching Recirculated Air On and Off



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

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

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

## AUTOMATIC CLIMATE CONTROL



E287205

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

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

**Note:** *You can control some of the climate features through the touchscreen.*

## Setting the Blower Motor Speed



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

# Climate Control

## Setting the Temperature

Press the toggle button on the left-hand side of the climate control upward or downward to set the left-hand temperature.

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

Press the toggle button on the right-hand side of the climate control upward or downward to set the right-hand temperature.

## Switching Auto Mode On and Off



Press and release the button to switch on automatic operation, then set the temperature.

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

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

## Switching the Air Conditioning On and Off



Press and release the button.

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

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

## Switching the Climate Control On and Off



Press and release the button.

## Switching Defrost On and Off



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

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

## Switching Maximum Air Conditioning On and Off



Press and release the button for maximum cooling.

Recirculated air flows through the instrument panel air vents, air conditioning turns on and the blower motor adjusts to the highest speed.

## Switching Maximum Defrost On and Off



Press and release the button for maximum defrosting.

Air flows through the windshield air vents, and the blower motor adjusts to the highest speed.

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

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

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

# Climate Control

## Switching Recirculated Air On and Off



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

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

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

## HINTS ON CONTROLLING THE INTERIOR CLIMATE - VEHICLES WITH: MANUAL TEMPERATURE CONTROL

### General Hints

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

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

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

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

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

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

## Quickly Heating the Interior

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

## Recommended Settings for Heating

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

## Quickly Cooling the Interior

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

## Recommended Settings for Cooling

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

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

1. Apply the parking brake.
2. Place your vehicle in park (P) or neutral.
3. Select **MAX A/C**.

# Climate Control

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4. Adjust the blower motor speed to the lowest speed setting.

## **Defogging the Side Windows in Cold Weather**

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

## **HINTS ON CONTROLLING THE INTERIOR CLIMATE - VEHICLES WITH: AUTOMATIC TEMPERATURE CONTROL**

### **General Hints**

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

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

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

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

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

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

### **Automatic Climate Control**

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

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

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

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

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

### **Quickly Heating the Interior**

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

### **Recommended Settings for Heating**

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

### **Quickly Cooling the Interior**

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

### **Recommended Settings for Cooling**

1. Press and release **AUTO**.

# Climate Control

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

## Defogging the Side Windows in Cold Weather

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

## HEATED REAR WINDOW



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

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

## HEATED EXTERIOR MIRRORS

(IF EQUIPPED)

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

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

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

# Interior Air Quality

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## WHAT IS THE CABIN AIR FILTER

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

## LOCATING THE CABIN AIR FILTER

The cabin air filter is behind the glovebox.

**Note:** *The filter access door is above the passenger footwell under the instrument panel.*

## REPLACING THE CABIN AIR FILTER

Replace the filter at regular intervals. See **Scheduled Maintenance** (page 441).

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

**Note:** *Using an aftermarket cabin air filter could reduce cabin air filtration and climate control performance.*



# Seats

## SITTING IN THE CORRECT POSITION



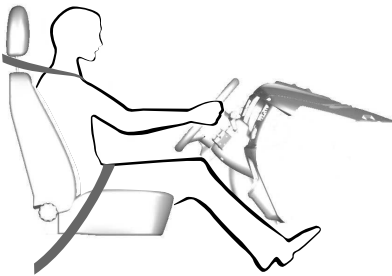
**WARNING:** Sitting improperly, out of position or with the seatback reclined too far can take weight off the seat cushion and affect the decision of the passenger sensing system, resulting in serious injury or death in the event of a crash. Always sit upright against your seat back, with your feet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



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



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



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

We recommend that you follow these guidelines:

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

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

## HEAD RESTRAINTS



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

# Seats



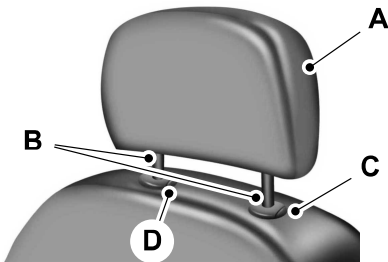
**WARNING:** The adjustable head restraint is a safety device. Whenever possible it should be installed and properly adjusted when the seat is occupied. Failure to adjust the head restraint properly could reduce its effectiveness during certain impacts.



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

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

## Front seat head restraints (if equipped)



The head restraints consist of:

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

## Adjusting the Head Restraint

### Raising the Head Restraint

Pull the head restraint up.

### Lowering the Head Restraint

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

### Removing the Head Restraint

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

### Installing the Head Restraint

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

## Front Seat Non-Adjustable Head Restraints (If Equipped)



E174407

The non-adjustable head restraints consist of a trimmed foam covering over the upper structure of the seatback.

Properly adjust the seatback to an upright driving or riding position, so that the head restraint is positioned as close as possible to the back of your head.

# Seats

## Tilting Head Restraints (If Equipped)

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



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

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

## MANUAL SEATS



**WARNING:** Do not adjust the driver's seat or seatback when your vehicle is moving.



**WARNING:** Rock the seat backward and forward after releasing the lever to make sure that it is fully engaged.



**WARNING:** Reclining the seatback can cause an occupant to slide under the seat's safety belt, resulting in severe personal injuries in the event of a crash.

The manual front seats may consist of:



E174553

- A A bar to move the seat backward and forward.
- B A lever to adjust the height of the seat.
- C A lever to adjust the angle of the seatback.

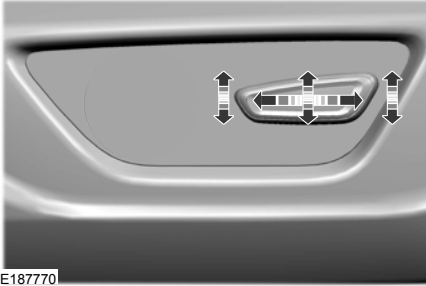
# Seats

## POWER SEATS (IF EQUIPPED)

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

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

### Driver Side



E187770

### Passenger Side

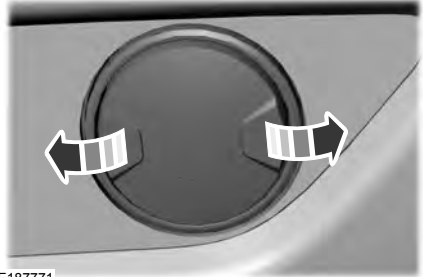


E285698

The power seat control is on the outermost side of the seat. Move the control in the direction of the arrows to raise or lower the seat cushion or to move the seat forward, backward, up or down.

## Power Lumbar (If Equipped)

The power lumbar control is on the side of the driver seat.



E187771

Press one side of the control to increase lower back firmness. Press the other side of the control to decrease lower back firmness.

## MEMORY FUNCTION (IF EQUIPPED)

**WARNING:** Before activating the memory seat, make sure that the area immediately surrounding the seat is clear of obstructions and that all occupants are clear of moving parts.

**WARNING:** Do not use the memory function when your vehicle is moving.

The memory function recalls the position of these features.

- Driver seat.
- MyColor settings.
- Power mirrors.

The memory control is on the driver door.

# Seats



## Saving a Preset Position

1. Switch the ignition on.
2. Adjust the memory features to your preferred position.
3. Press and hold the preferred preset button until you hear a single tone.

You can save up to three preset memory positions at any time.

## Recalling a Preset Position

Press and release a preset button.

**Note:** You can only recall a preset memory position when the ignition is off, or when the transmission is in park (P) or neutral (N) if the ignition is on.

You can also recall a preset memory position by:

- Pressing the unlock button on your intelligent access key fob if it is linked to a preset position.
- Unlocking the intelligent driver door handle if a linked key fob is present.

**Note:** When the ignition is off and you use a linked key fob to recall your memory position, the seat moves to the easy entry position.

**Note:** Pressing any of the preset buttons during a memory recall cancels the operation.

Seat recall movement also stops if you drive your vehicle.

## Linking a Preset Position to your Remote Control or Intelligent Access Key Fob

You can save preset memory positions for up to three remote controls or intelligent access keys.

1. With the ignition on, move the memory positions to the preferred positions.
2. Press and hold a preset button for five seconds. A tone sounds after two seconds. Continue holding until you hear a second tone.
3. Within three seconds, press the lock button on the remote control you are linking.

To unlink a remote control, follow the same procedure – except in step 3, press the unlock button on the remote control.

**Note:** If more than one linked remote control or intelligent access key is in range, the memory function moves to the settings of the first key to initiate a memory recall.

## Easy Entry and Exit Feature

If you enable the easy entry and exit feature, it moves the driver seat position rearward up to 2 in (5 cm) when you switch the ignition off.

The driver seat returns to the previous position when you switch the ignition on.

You can enable or disable this feature through the information display. See **Information Displays** (page 99).

# Seats

## REAR SEATS



**WARNING:** When folding the seat backrest down, take care not to get your fingers caught in the mechanism.



**WARNING:** Make sure that the seats and the seat backrests are secure and fully locked in their catches.

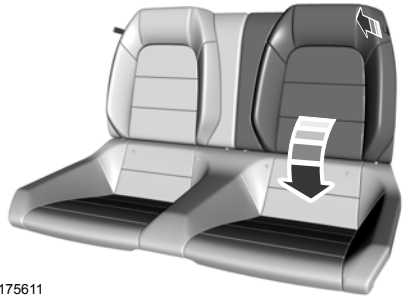
## Accessing the Rear Seats



E207088

Use the seatback release to fold the back of the front seat forward for rear seat access. The release handle is on the upper back of the front seat. The seatback has memory and locks automatically in the original position.

## Second Row Split-Folding Rear Seat (If Equipped)



E175611

To lower the seatback(s):

1. Pull the strap to release the seatback.
2. Fold the seatback down.

## Returning the Seatbacks to the Upright Position

When raising the seatback(s), push the top of the seatback rearward and make sure you hear the seat latch into place. Pull down on the seatback to make sure that it has locked into position.

## CLIMATE CONTROLLED SEATS

(IF EQUIPPED)

## Heated Seats



**WARNING:** People who are unable to feel pain to their skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical conditions, must use caution when using the heated seat. The heated seat may cause burns even at low temperatures, especially if used for long periods of time. Do not place anything on the seat that may block the heat, such as a blanket or

# Seats

cushion. This can cause the heated seat to overheat. Do not puncture the seat with pins, needles or other pointed objects. This damages the heating element and can cause the heated seat to overheat. An overheated seat may cause serious personal injury.

Press the cooled seat symbol to cycle through the various cool settings and off. More indicator lights indicate cooler settings.

If the engine falls below 350 RPM while the cooled seats are on, the feature turns itself off. You will need to reactivate it.

**Note:** Do not do the following:

- Place heavy objects on the seat.
- Operate the seat heater if water or any other liquid spills on the seat. Allow the seat to dry thoroughly.
- Operate the heated seats unless the engine is running. Doing so can cause the battery to lose charge.



Press the heated seat symbol to cycle through the various heat settings and off. More indicator lights indicate warmer settings.

## Cooled Seats

The cooled seats only function when the engine is running.



## Garage Door Opener (If Equipped)

### WHAT IS THE GARAGE DOOR OPENER

#### HomeLink Wireless Control System



The universal garage door opener replaces the common hand-held garage door opener with a three-button transmitter integrated into the driver's sun visor.

### HOW DOES THE GARAGE DOOR OPENER WORK

The system includes two primary features, a garage door opener and a platform for remote activation of devices within the home. You can program garage doors as well as entry gate operators, security systems, entry door locks and home or office lighting.

Additional system information can be found online at [www.homelink.com](http://www.homelink.com) or by calling the toll-free help line at 1-800-355-3515.

**Note:** You can program a maximum of three devices. To change or replace any of the three devices after it has been initially programmed, you must first erase the current settings. See **Clearing the Garage Door Opener** (page 143).

### GARAGE DOOR OPENER PRECAUTIONS



**WARNING:** Do not use the system with any garage door opener that does not have the safety stop and reverse feature as required by U.S. Federal Safety Standards (this includes any garage door opener manufactured before April 1, 1982). A garage door opener which cannot detect an object, signaling the door to stop and reverse, does not meet current federal safety standards. Using a garage door opener without these features increases the risk of serious injury or death.

**Note:** Make sure that the garage door and security device are free from obstruction when you are programming. Do not program the system with your vehicle in the garage.

**Note:** Make sure you keep the original remote control transmitter for use in other vehicles as well as for future system programming.

**Note:** We recommend that upon the sale or lease termination of your vehicle, you erase the programmed function buttons for security reasons. See **Clearing the Garage Door Opener** (page 143).

### GARAGE DOOR OPENER LIMITATIONS

Canadian radio-frequency laws require transmitter signals to time-out (or quit) after several seconds – which may not be long enough for HomeLink to pick up the signal.

U.S. gate operators time-out in the same manner.



## Garage Door Opener (If Equipped)

**Note:** If programming a garage door opener or gate operator, it is advised to unplug the device during the “cycling” process to prevent possible overheating.

### PROGRAMMING THE GARAGE DOOR OPENER TO YOUR HAND-HELD TRANSMITTER

This process is to program your in-vehicle HomeLink function button with your hand-held transmitter.

**Note:** The programming steps below assume you will be programming HomeLink that was not previously programmed. If your HomeLink was previously programmed, you may need to erase your HomeLink buttons. See **Clearing the Garage Door Opener** (page 143).



1. With your vehicle parked outside of the garage, switch your ignition to the on position, but do not start your vehicle.
2. Press and release one of the three HomeLink function buttons that you would like to program.
3. Hold your hand-held garage door transmitter 1–3 in (2–8 cm) away from the HomeLink button you want to program.

4. Press and hold the hand-held transmitter button you want to program while watching the indicator light on HomeLink. Continue to hold the hand-held button until the HomeLink indicator light flashes rapidly or is continuously on.

**Note:** You may need to use a different method if you live in Canada or have difficulties programming your gate operator or garage door opener. See **Programming the Garage Door Opener to Your Gate Opener Motor** (page 143).

5. Press and hold the HomeLink button you programmed for two seconds, then release. You may need to do this twice to activate the door.

**Note:** If the indicator light stays on, the programming is complete.

**Note:** If the HomeLink indicator flashes rapidly, repeat step 5.

**Note:** If your device still does not operate, you must program your garage door. See **Programming the Garage Door Opener to Your Garage Door Opener Motor** (page 142).

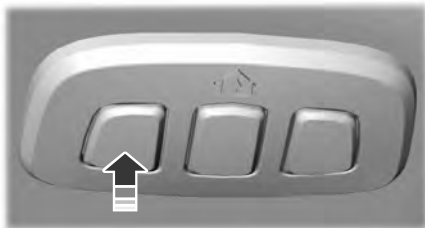
6. To program additional buttons, repeat Steps 1 – 4.

### PROGRAMMING THE GARAGE DOOR OPENER TO YOUR GARAGE DOOR OPENER MOTOR



## Garage Door Opener (If Equipped)

1. Press the learn button on the garage door opener motor, you have 30 seconds to complete the next two steps.
2. Return to your vehicle.



3. Press and hold one of the three HomeLink function buttons you want to program for two seconds, then release. Repeat this step. Depending on your brand of garage door opener, you may need to repeat this sequence a third time.

### PROGRAMMING THE GARAGE DOOR OPENER TO YOUR GATE OPENER MOTOR

#### Gate Operator / Canadian Programming

Canadian radio-frequency laws require transmitter signals to “time-out” (or quit) after several seconds of transmission – which may not be long enough for HomeLink to pick up the signal during programming. Similar to this Canadian law, some U.S. gate operators “time-out” in the same manner.

**Note:** *If programming a garage door opener or gate operator, it is advised to unplug the device during the “cycling” process to prevent possible overheating.*

1. Press and release, every two seconds, your hand-held transmitter until the HomeLink indicator light changes to a rapidly blinking or continuously on light.
2. Release the hand-held transmitter button.
3. Press and hold the HomeLink function button you want to program for two seconds, then release. You may need to do this twice to activate the door.

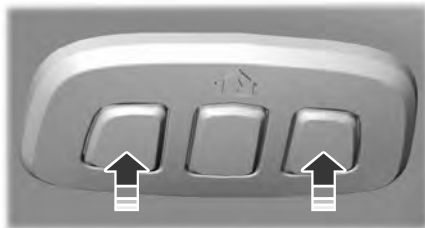
**Note:** *If the indicator light stays on, the programming is complete.*

**Note:** *If the HomeLink indicator flashes rapidly, repeat Step 3.*

**Note:** *If your device still does not operate, you must program your garage door. See **Programming the Garage Door Opener to Your Garage Door Opener Motor** (page 142).*

4. To program additional buttons, repeat Steps 1 – 4.

### CLEARING THE GARAGE DOOR OPENER



1. Press and hold the outer two function buttons simultaneously for approximately 10 seconds until the indicator light above the buttons flashes rapidly.

## Garage Door Opener (If Equipped)

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2. When the indicator light flashes, release the buttons.

**Note:** *You cannot erase individual buttons.*

### REPROGRAMMING THE GARAGE DOOR OPENER

To program a device to a previously trained button, follow these steps:

1. Press and hold the desired button. Do NOT release the button.
2. The indicator light begins to flash after 20 seconds. Without releasing the button, follow programming steps.

### GARAGE DOOR OPENER RADIO FREQUENCIES

#### FCC and RSS-210 Industry Canada Compliance



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

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that could cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End Users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must be at least 8 in (20 cm) from the user and must not be co-located or operating in conjunction with any other antenna or transmitter.

# Auxiliary Power Points

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## 12 Volt DC Power Point



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

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

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

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

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

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

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

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

To prevent the battery from running out of charge:

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

## Locations

Power points may be in the following locations:

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

# Storage Compartments

## CENTER CONSOLE

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

The console includes:

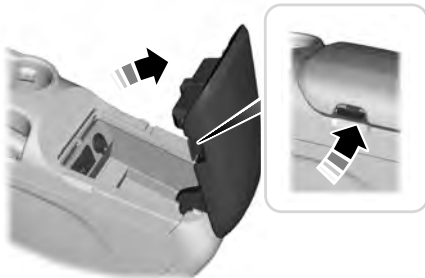
- Cup holder.
- Storage compartment.



E209039

Lift the latch to open the storage compartment to access the following features:

- Auxiliary power point.
- USB port.



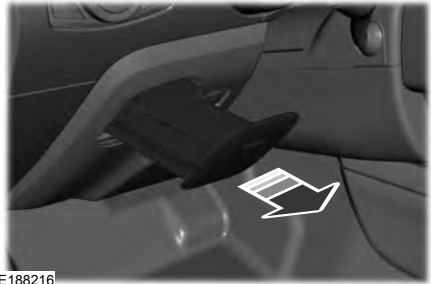
E175706

## Locking Storage Bin

**Note:** You cannot lock the storage bin when the vehicle is on.

The storage bin locks when you electronically lock the doors. The bin unlocks when you use the remote control to unlock the driver door.

## GLASSES HOLDER



E188216

Press near the center of the door to open it. Pull out the tray.

# Starting and Stopping the Engine

## GENERAL INFORMATION

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

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

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

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

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

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

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

## KEYLESS STARTING

**Note:** The keyless starting system may not function if the key is close to metal objects or electronic devices such as cellular phones.

**Note:** A valid key must be located inside your vehicle to switch the ignition on and start the engine.

### Ignition Modes



E248637

The keyless starting system has three modes:

**Off:** Turns the ignition off.

- Without applying the brake pedal, press and release the button once when the ignition is in the on mode, or when the engine is running but the vehicle is not moving.

**On:** All electrical circuits are operational and the warning lamps and indicators illuminate.

- Without applying the brake pedal, press and release the button once.

**Start:** Starts the engine.

# Starting and Stopping the Engine

- Press the brake pedal (automatic transmission) or clutch pedal (manual transmission), and then press the button for any length of time. An indicator light on the button illuminates when the ignition is on and when the engine starts.

## STEERING WHEEL LOCK

Your vehicle has an electronically controlled steering wheel lock that automatically operates.

The steering wheel will lock shortly after you have parked your vehicle and the passive key is outside it or when you lock your vehicle.

**Note:** *The steering wheel will not lock when the ignition is on or when your vehicle is moving.*

## Unlocking the Steering Wheel

The steering wheel unlocks when the system detects a valid passive key inside your vehicle. If the steering wheel relocks, switch the ignition on to unlock it.

**Note:** *You may have to slightly rotate the steering wheel to assist unlocking it.*

## STARTING A GASOLINE ENGINE

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

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

Before starting the engine, check the following:

- Make sure all occupants have fastened their seatbelts.
- Make sure the headlamps and electrical accessories are off.
- Make sure the parking brake is on.
- Move the transmission selector lever to park (P) (automatic transmission) or neutral (manual transmission)

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

**Note:** *You must have your intelligent access key in the vehicle in order to shift the transmission out of position P.*

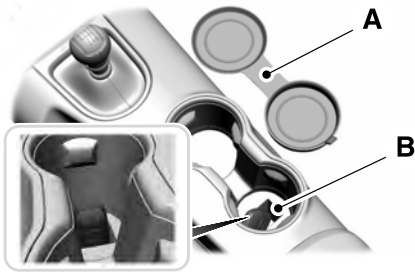
1. Fully press the brake pedal.
2. Press the button.

The system does not function if:

- The key frequencies are jammed.
- The key battery has no charge.

If you are unable to start the engine, do the following:

# Starting and Stopping the Engine



E174956

1. Remove the rubber covering (A) in the cupholder.
2. Place the remote in the backup slot (B) with the buttons facing up and the keyring toward the front of the vehicle.
3. With the key in this position, press the brake pedal (automatic transmission) or clutch pedal (manual transmission), then the START button to switch the ignition on and start your vehicle.

## Fast Restart

The fast restart feature allows you to restart the engine within 20 seconds of switching it off, even if a valid key is not present.

Within 20 seconds of switching the engine off, press the brake pedal (automatic transmission) or clutch pedal (manual transmission) and press the button. After 20 seconds have expired, you can no longer restart the engine without the key present inside your vehicle.

Once the engine has started, it remains running until you press the button, even if the system does not detect a valid key. If you open and close a door while the engine is running, the system searches for a valid key. You cannot restart the engine if the system does not detect a valid key within 20 seconds.

## Failure to Start

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

1. If your vehicle is equipped with an automatic transmission, fully press the brake pedal. If your vehicle is equipped with a manual transmission, fully press the clutch pedal and apply the handbrake.
2. Move the transmission selector lever to park (P) (automatic transmission) or neutral (manual transmission).
3. Fully press the accelerator pedal and hold it there.
4. Start the engine.

## Automatic Engine Shutdown

Your vehicle is equipped with a feature that automatically shuts down the engine if it has been idling for an extended period. The ignition also turns off in order to save battery power. Before the engine shuts down, a message appears in the information display showing a timer counting down from 30 seconds. If you do not intervene within 30 seconds, the engine shuts down. Another message appears in the information display to inform you that the engine has shut down in order to save fuel. Start your vehicle as you normally do.

## Automatic Engine Shutdown Override

**Note:** *You cannot permanently switch off the automatic engine shutdown feature. When you switch it off temporarily, it turns on at the next ignition cycle.*

You can stop the engine shutdown, or reset the timer, at any point before the 30-second countdown has expired by doing any of the following:



# Starting and Stopping the Engine

- You can reset the timer by interacting with your vehicle (such as pressing the brake pedal or accelerator pedal).
- You can temporarily switch off the shutdown feature any time the ignition is on (for the current ignition cycle only). Use the information display to do so. See **Information Displays** (page 99).
- During the countdown before engine shutdown, you are prompted to press OK or RESET (depending on your type of information display) to temporarily switch the feature off (for the current ignition cycle only).

## Stopping the Engine When Your Vehicle is Stationary

1. Move the transmission selector lever to park (P) (automatic transmission) or neutral (manual transmission).
2. Press the button once.
3. Apply the parking brake.

**Note:** This switches off the ignition, all electrical circuits, warning lamps and indicators.

**Note:** If the engine is idling for 30 minutes, the ignition and engine automatically shut down.

## Stopping the Engine When Your Vehicle is Moving



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

1. Move the transmission selector lever to the neutral position and use the brakes to bring your vehicle to a safe stop.
2. When your vehicle has stopped, move the transmission selector lever to park (P) (automatic transmission) or neutral (manual transmission).
3. Press and hold the button for one second, or press it three times within two seconds.
4. Apply the parking brake.

## Guarding Against Exhaust Fumes



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

## Important Ventilating Information

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

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

## ENGINE BLOCK HEATER (IF EQUIPPED)



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

# Starting and Stopping the Engine



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



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

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

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

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

- Use a 16-gauge outdoor extension cord that is product certified by Underwriter's Laboratory (UL) or Canadian Standards Association (CSA). This extension cord must be suitable for use outdoors, in cold temperatures, and be clearly marked Suitable for Use with Outdoor Appliances. Do not use an indoor extension cord outdoors. This could result in an electric shock or become a fire hazard.
- Use as short an extension cord as possible.
- Do not use multiple extension cords.

- Make sure that when in operation, the extension cord plug and heater cord plug connections are free and clear of water. This could cause an electric shock or fire.
- If the block heater cord is under the hood, Do Not remove the wiring from its original location. Do Not close the hood on the extension wiring.
- Make sure your vehicle is parked in a clean area, clear of combustibles.
- Make sure the heater, heater cord and extension cord are firmly connected.
- Check for heat anywhere in the electrical hookup once the system has been operating for approximately 30 minutes.
- Make sure the system is unplugged and properly stowed before starting and driving your vehicle. Make sure the protective cover seals the prongs of the block heater cord plug when not in use.
- Make sure the heater system is checked for proper operation before winter.


## Using the Engine Block Heater


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


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


# Fuel and Refueling


## SAFETY PRECAUTIONS

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

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

 **WARNING:** Fuels can cause serious injury or death if misused or mishandled.

 **WARNING:** Fuel may contain benzene, which is a cancer-causing agent.

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

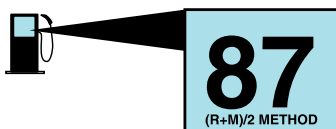
Follow these guidelines when refueling:

- Extinguish all smoking materials and any open flames before refueling your vehicle.
- Always switch the engine off before refueling.
- Automotive fuels can be harmful or fatal if swallowed. Fuel is highly toxic and if swallowed can cause death or permanent injury. If fuel is swallowed immediately call a physician, even if no symptoms are immediately apparent. The toxic effects of fuel may not be apparent for hours.

- Avoid inhaling fuel vapors. Inhaling fuel vapor can lead to eye and respiratory tract irritation. In severe cases, excessive or prolonged breathing of fuel vapor can cause serious illness and permanent injury.
- Avoid getting fuel in your eyes. If you splash fuel in your eyes, immediately remove contact lenses (if worn), flush with water for 15 minutes and seek medical attention. Failure to seek proper medical attention could lead to permanent injury.
- Fuels can be harmful if absorbed through the skin. If you splash fuel on your skin, clothing or both, promptly remove contaminated clothing and thoroughly wash your skin with soap and water. Repeated or prolonged skin contact causes skin irritation.
- Be particularly careful if you are taking Antabuse or other forms of Disulfiram for the treatment of alcoholism. Breathing fuel vapors could cause an adverse reaction, serious personal injury or sickness. Immediately call a physician if you experience any adverse reactions.

## FUEL QUALITY - MACH 1

### Choosing the Right Fuel



Your vehicle is designed to operate on regular unleaded gasoline with a minimum pump (R+M)/2 octane rating of 87.

# Fuel and Refueling

Some fuel stations, particularly those in high altitude areas, offer fuels posted as regular unleaded gasoline with an octane rating below 87. The use of these fuels could result in engine damage that will not be covered by the vehicle warranty.

For best overall vehicle and engine performance, premium fuel with an octane rating of 91 or higher is recommended.

Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

We recommend Top Tier detergent gasolines, where available to help minimize engine deposits and maintain optimal vehicle and engine performance. For additional information, refer to [www.toptiergas.com](http://www.toptiergas.com).

**Note:** *Use of any fuel for which the vehicle was not designed can impair the emission control system, cause loss of vehicle performance, and cause damage to the engine which may not be covered by the vehicle Warranty.*

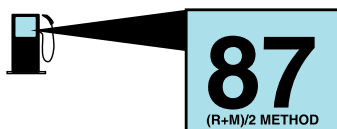
Do not use:

- Diesel fuel.
- Fuels containing kerosene or paraffin.
- Fuel containing more than 15% ethanol or E85 fuel.
- Fuels containing methanol.
- Fuels containing metallic-based additives, including manganese-based compounds.
- Fuels containing the octane booster additive, methylcyclopentadienyl manganese tricarbonyl (MMT).
- Leaded fuel, using leaded fuel is prohibited by law.

The use of fuels with metallic compounds such as methylcyclopentadienyl manganese tricarbonyl (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

## FUEL QUALITY

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For best overall vehicle and engine performance, premium fuel with an octane rating of 91 or higher is recommended. The performance gained by using premium fuel is most noticeable in hot weather as well as other conditions, for example when towing a trailer. See **Towing** (page 218).

Do not be concerned if the engine sometimes knocks lightly. However, if the engine knocks heavily while using fuel with the recommended octane rating, contact an authorized dealer to prevent any engine damage.

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- Leaded fuel, using leaded fuel is prohibited by law.

The use of fuels with metallic compounds such as methylcyclopentadienyl manganese tricarbonyl (commonly known as MMT), which is a manganese-based fuel additive, will impair engine performance and affect the emission control system.

## FUEL FILLER FUNNEL LOCATION

The fuel filler funnel is under the luggage compartment floor covering.

## RUNNING OUT OF FUEL

Running out of fuel can cause damage not covered by the vehicle Warranty.

If your vehicle runs out of fuel:

- Add a minimum of 1.3 gal (5 L) of fuel to restart the engine.
- You may need to switch the ignition from off to on several times after refueling to allow the fuel system to pump the fuel from the tank to the engine. When restarting, cranking time takes a few seconds longer than normal.

**Note:** *If your vehicle is on a steep slope, more fuel may be required.*

## Filling a Portable Fuel Container



**WARNING:** Flow of fuel through a fuel pump nozzle can produce static electricity. This can cause a fire if you are filling an ungrounded fuel container.

Use the following guidelines to avoid electrostatic charge build-up, which can produce a spark, when filling an ungrounded fuel container:

- Only use an approved fuel container to transfer fuel to your vehicle. Place the container on the ground when filling it.
- Do not fill a fuel container when it is inside your vehicle (including the cargo area).
- Keep the fuel pump nozzle in contact with the fuel container when filling it.
- Do not use a device that holds the fuel pump nozzle lever in the fill position.

# Fuel and Refueling

## Adding Fuel From a Portable Fuel Container



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



**WARNING:** Do not try to pry open or push open the capless fuel system with foreign objects. This could damage the fuel system and its seal and cause injury to you or others.



**WARNING:** Do not dispose of fuel in the household refuse or the public sewage system. Use an authorized waste disposal facility.

When refueling the vehicle fuel tank from a fuel container, use the fuel filler funnel included with your vehicle. See **Fuel Filler Funnel Location** (page 154).

**Note:** Do not use aftermarket funnels as they may not work with the capless fuel system and can damage it.

When refueling the vehicle fuel tank from a fuel container, do the following:

1. Fully open the fuel filler door.
2. Fully insert the fuel filler funnel into the fuel filler inlet.



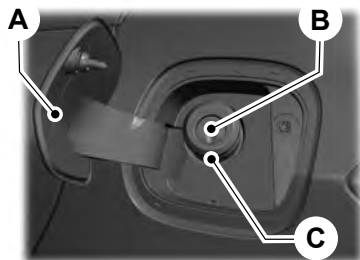
3. Add fuel to your vehicle from the fuel container.
4. Remove the fuel filler funnel.
5. Fully close the fuel filler door.
6. Clean the fuel filler funnel and place it back in your vehicle or correctly dispose of it.

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

# Fuel and Refueling

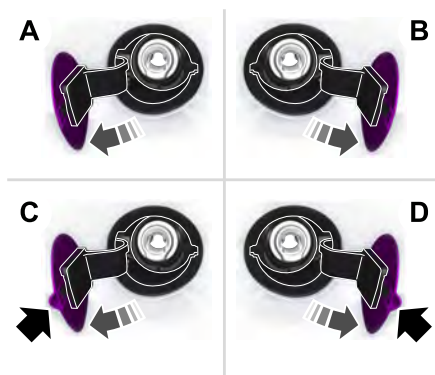
## REFUELING

### Refueling System Overview



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

Your vehicle does not have a fuel tank filler cap.



- A Left-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.
- B Right-hand side. To open the fuel filler door, press the center rear edge of the fuel filler door and then release.
- C Left-hand side. Pull the rear of the fuel filler door to open it.
- D Right-hand side. Pull the rear of the fuel filler door to open it.

### Refueling Your Vehicle

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

# Fuel and Refueling

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

**WARNING:** Do not pry open the fuel tank filler valve. This could damage the fuel system. Failure to follow this instruction could result in fire, personal injury or death.

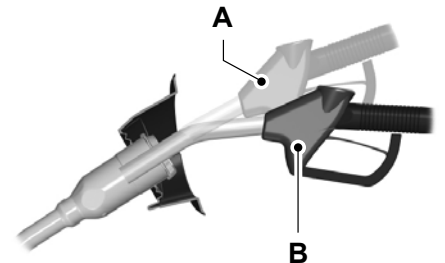
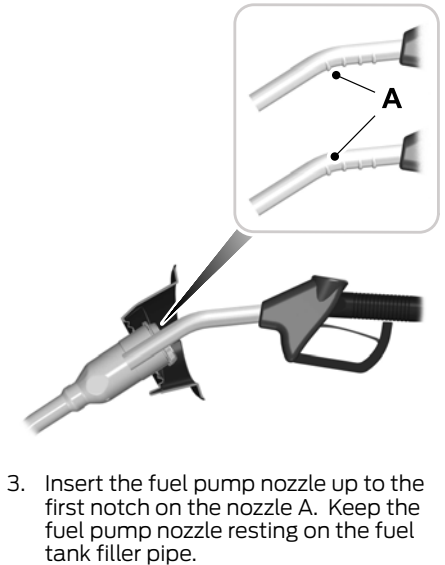
**WARNING:** Do not remove the fuel pump nozzle from its fully inserted position when refueling.

**WARNING:** Stop refueling when the fuel pump nozzle automatically shuts off for the first time. Failure to follow this will fill the expansion space in the fuel tank and could lead to fuel overflowing.

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

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

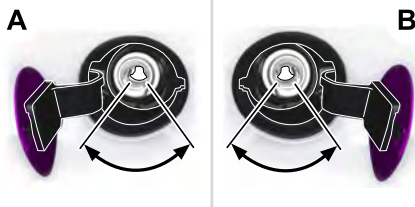
1. Fully open the fuel filler door.
2. Select the correct fuel pump nozzle for your vehicle.



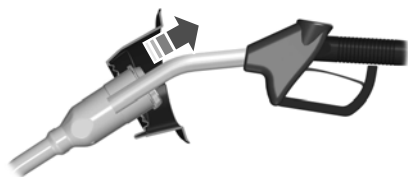
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# Fuel and Refueling



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



6. When you finish refueling slightly raise the fuel pump nozzle and slowly remove it.
7. Fully close the fuel filler door.

Do not attempt to start the engine if you have filled the fuel tank with incorrect fuel. Incorrect fuel use could cause damage not covered by the vehicle Warranty. Have your vehicle immediately checked.

## Refueling System Warning (If Equipped)

If the fuel tank filler valve does not fully close, a message could appear in the information display.

Message
Check Fuel Fill Inlet

If the message appears, do the following:

1. Stop your vehicle as soon as it is safe to do so and switch the engine off.
2. Shift into park (P) or neutral (N).

3. Apply the parking brake.
4. Fully open the fuel filler door.
5. Check the fuel tank filler valve for any debris that may be restricting its movement.
6. Remove any debris from the fuel tank filler valve.
7. Fully insert a fuel pump nozzle or the fuel filler funnel provided with your vehicle into the fuel filler pipe. See **Fuel Filler Funnel Location** (page 154). This action should dislodge any debris that may be preventing the fuel tank filler valve from fully closing.
8. Remove the fuel pump nozzle or fuel filler funnel from the fuel filler pipe.
9. Fully close the fuel filler door.

**Note:** The message may not immediately reset. If the message continues to appear and a warning lamp illuminates, have your vehicle checked as soon as possible.

## FUEL CONSUMPTION

### Advertised Capacity

The advertised capacity is the maximum amount of fuel that you can add to the fuel tank after running out of fuel. Included in the advertised capacity is an empty reserve. The empty reserve is an unspecified amount of fuel that remains in the fuel tank when the fuel gauge indicates empty.

**Note:** The amount of fuel in the empty reserve varies and should not be relied upon to increase driving range.

# Fuel and Refueling

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## Filling the Fuel Tank

For consistent results when refueling:

- Switch the ignition off before fueling, an inaccurate reading results if you leave the engine running.
- Use the same fill rate, low-medium-high, each time you fill the tank.
- Allow no more than one automatic shut-off when refueling.

Results are most accurate when the filling method is consistent.

## Calculating Fuel Economy

Your vehicle calculates fuel economy figures through the trip computer average fuel function. See **Information Displays** (page 99).

The first 1,000 mi (1,600 km) of driving is the break-in period of the engine. The system obtains a more accurate measurement after 2,000–3,000 mi (3,200–4,800 km).

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

## Conditions Affecting Fuel Efficiency

- Carrying unnecessary weight in your vehicle may reduce fuel economy.
- Avoid adding accessories that increase aerodynamic drag to your vehicle such as bug deflectors, car top carriers and ski or bike racks.
- Remove empty roof racks and keep windows shut at high speeds to reduce wind resistance and fuel use.

- Check and adjust tire pressure regularly. Underinflated tires increases fuel consumption.
- Sudden acceleration and braking degrade fuel efficiency. Drive smoothly looking as far ahead as possible and avoid short trips when possible.
- Fuel efficiency degrades with lower temperatures.
- Comfort features use additional energy and consume more fuel. Use AC and other comfort features only when necessary.
- Using fuel blended with alcohol may increase fuel consumption.

# Engine Emission Control

## EMISSION LAW



**WARNING:** Do not remove or alter the original equipment floor covering or insulation between it and the metal floor of the vehicle. The floor covering and insulation protect occupants of the vehicle from the engine and exhaust system heat and noise. On vehicles with no original equipment floor covering insulation, do not carry passengers in a manner that permits prolonged skin contact with the metal floor. Failure to follow these instructions may result in fire or personal injury.

U.S. federal laws and certain state laws prohibit removing or rendering inoperative emission control system components. Similar federal or provincial laws may apply in Canada. We do not approve of any vehicle modification without first determining applicable laws.



Tampering with emissions control systems including related sensors can result in reduced engine power and the illumination of the service engine soon light.

## Tampering With a Noise Control System

Federal laws prohibit the following acts:

- Removal or rendering inoperative by any person other than for purposes of maintenance.
- Repair or replacement of any device or element of the design incorporated into a new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use.
- The use of the vehicle after any person removes or renders inoperative any device or element of the design.

The U.S. Environmental Protection Agency may presume to constitute tampering as follows:

- Removal of hood blanket, fender apron absorbers, fender apron barriers, underbody noise shields or acoustically absorptive material.
- Tampering or rendering inoperative the engine speed governor, to allow engine speed to exceed manufacturer specifications.

If the engine does not start, runs rough, experiences a decrease in engine performance, experiences excess fuel consumption or produces excessive exhaust smoke, check for the following:

- A plugged or disconnected air inlet system hose.
- A plugged engine air filter element.
- A clogged fuel filter.
- Contaminated fuel.
- Air in the fuel system, due to loose connections.
- Fuel system leaks, due to loose connections.
- An open or pinched sensor hose.
- Incorrect engine oil level.
- Incorrect fuel for climatic conditions.
- Incorrect engine oil viscosity for climactic conditions.

**Note:** Some vehicles have a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.

**Note:** If these checks do not help you correct the concern, see your authorized dealer as soon as possible.

# Engine Emission Control

## CATALYTIC CONVERTER



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



**WARNING:** The normal operating temperature of the exhaust system is very high. Never work around or attempt to repair any part of the exhaust system until it has cooled. Use special care when working around the catalytic converter. The catalytic converter heats up to a very high temperature after only a short period of engine operation and stays hot after the engine is switched off.



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

Your vehicle has various emission control components and a catalytic converter that enables it to comply with applicable exhaust emission standards.

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

- Do not crank the engine for more than 10 seconds at a time.
- Do not run the engine with a spark plug lead disconnected.
- Do not push-start or tow-start your vehicle. Use booster cables. See **Jump Starting the Vehicle** (page 234).
- Use only the specified fuel listed.
- Do not switch the ignition off when your vehicle is moving.

- Avoid running out of fuel.
- Have the items listed in scheduled maintenance information performed according to the specified schedule.

**Note:** *Resulting component damage may not be covered by the vehicle Warranty.*

The scheduled maintenance items listed in scheduled maintenance information are essential to the life and performance of your vehicle and to its emissions system.

If you use anything other than Ford, Motorcraft or Ford-authorized parts for maintenance replacements or for service of components affecting emission control, such non-Ford parts should be equivalent to genuine Ford Motor Company parts in performance and durability.

Illumination of the service engine soon indicator, charging system warning light or the temperature warning light, fluid leaks, strange odors, smoke or loss of engine power could indicate that the emission control system is not working properly.

An improperly operating or damaged exhaust system may allow exhaust to enter the vehicle. Have a damaged or improperly operating exhaust system inspected and repaired immediately.

Do not make any unauthorized changes to your vehicle or engine. By law, vehicle owners and anyone who manufactures, repairs, services, sells, leases, trades vehicles, or supervises a fleet of vehicles are not permitted to intentionally remove an emission control device or prevent it from working. Information about your vehicle's emission system is on the Vehicle Emission Control Information Decal located on or near the engine. This decal also lists engine displacement.

Please consult your warranty information for complete details.

# Engine Emission Control

## On-Board Diagnostics (OBD-II)

Your vehicle has a computer known as the on-board diagnostics system (OBD-II) that monitors the engine's emission control system. The system protects the environment by making sure that your vehicle continues to meet government emission standards. The OBD-II system also assists a service technician in properly servicing your vehicle.



When the service engine soon indicator illuminates, the OBD-II system has detected a malfunction. Temporary malfunctions may cause the service engine soon indicator to illuminate. Examples are:

1. Your vehicle has run out of fuel—the engine may misfire or run poorly.
2. Poor fuel quality or water in the fuel—the engine may misfire or run poorly.
3. The fuel fill inlet may not have closed properly. See **Refueling** (page 156).
4. Driving through deep water—the electrical system may be wet.

You can correct these temporary malfunctions by filling the fuel tank with good quality fuel, properly closing the fuel fill inlet or letting the electrical system dry out. After three driving cycles without these or any other temporary malfunctions present, the service engine soon indicator should stay off the next time you start the engine. A driving cycle consists of a cold engine startup followed by mixed city and highway driving. No additional vehicle service is required.

If the service engine soon indicator remains on, have your vehicle serviced at the first available opportunity. Although some malfunctions detected by the OBD-II may not have symptoms that are apparent, continued driving with the service engine soon indicator on can result in increased emissions, lower fuel economy, reduced engine and transmission smoothness and lead to more costly repairs.

## Readiness for Inspection and Maintenance (I/M) Testing

Some state and provincial and local governments may have Inspection/Maintenance (I/M) programs to inspect the emission control equipment on your vehicle. Failure to pass this inspection could prevent you from getting a vehicle registration.



If the service engine soon indicator is on or the bulb does not work, your vehicle may need service. See On-Board Diagnostics.

Your vehicle may not pass the I/M test if the service engine soon indicator is on or not working properly (bulb is burned out), or if the OBD-II system has determined that some of the emission control systems have not been properly checked. In this case, the vehicle is not ready for I/M testing.

If the vehicle's engine or transmission has just been serviced, or the battery has recently run down or been replaced, the OBD-II system may indicate that the vehicle is not ready for I/M testing. To determine if the vehicle is ready for I/M testing, turn the ignition key to the on position for 15 seconds without cranking the engine. If the service engine soon indicator blinks eight times, it means that the vehicle is not ready for I/M testing; if the service engine soon indicator stays on solid, it means that your vehicle is ready for I/M testing.

# Engine Emission Control

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

If the vehicle is not ready for I/M testing, you can perform the following driving cycle consisting of mixed city and highway driving:

1. 15 minutes of steady driving on an expressway or highway followed by 20 minutes of stop-and-go driving with at least four 30-second idle periods.
2. Allow your vehicle to sit for at least eight hours with the ignition off. Then, start the vehicle and complete the above driving cycle. The vehicle must warm up to its normal operating temperature. Once started, do not turn off the vehicle until the above driving cycle is complete.

If the vehicle is still not ready for I/M testing, you need to repeat the above driving cycle.

# Transmission

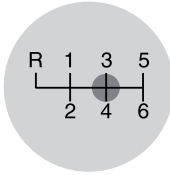
## MANUAL TRANSMISSION

### Using the Clutch

**Note:** Failure to fully press the clutch pedal to the floor may cause increased shift efforts, prematurely wear transmission components or damage the transmission.

**Note:** Do not drive with your foot resting on the clutch pedal or use the clutch pedal to hold your vehicle at a standstill while waiting on a hill. These actions reduce the life of the clutch and could nullify a clutch warranty claim.

**Note:** The engine may not start unless the intelligent access key is inside your vehicle.



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Manual transmission vehicles have a starter interlock that prevents cranking the engine unless you fully press the clutch pedal.

To start the vehicle:

1. Make sure the parking brake is fully set.
2. Press the clutch pedal to the floor, then put the gearshift lever in the neutral (N) position.
3. Start the engine.
4. Press the brake pedal and move the gearshift lever to the desired gear; first (1) or reverse (R).

5. Release the parking brake, then slowly release the clutch pedal while slowly pressing on the accelerator.

During each shift, fully press the clutch pedal to the floor. Make sure to properly position the floor mat so it does not interfere with the full extension of the clutch pedal.

### Recommended Shift Speeds

**Note:** Do not downshift into first (1) when your vehicle is moving faster than 15 mph (24 km/h). This damages the clutch.

#### 2.3L

Upshifts When Accelerating - Recommended for Best Fuel Economy	
Shift from:	
1 - 2	15 mph (24 km/h)
2 - 3	24 mph (39 km/h)
3 - 4	35 mph (56 km/h)
4 - 5	41 mph (66 km/h)
5 - 6	50 mph (80 km/h)

#### 5.0L

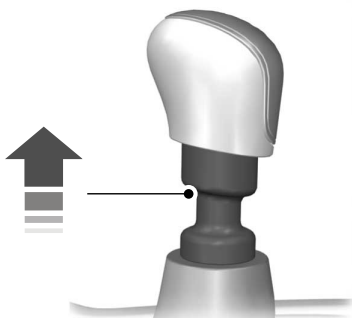
Upshifts When Accelerating - Recommended for Best Fuel Economy	
Shift from:	
1 - 2	14 mph (23 km/h)
2 - 3	25 mph (40 km/h)
3 - 4	35 mph (56 km/h)
4 - 5	41 mph (66 km/h)
5 - 6	48 mph (77 km/h)

# Transmission

## Reverse (R)

**Note:** Make sure that your vehicle is at a complete stop before you shift into reverse (R). Failure to do so could damage the transmission.

1. Press the clutch pedal to the floor to disengage clutch.
2. Shift into reverse (R) by raising the collar below the gearshift knob up, then moving the lever fully to the left, then forward.



**Note:** The gearshift lever can only be moved to reverse (R) by raising the collar below the gearshift knob up before shifting to reverse (R). This is a lockout feature which protects the transmission from accidentally engaging reverse (R) when intending to select first (1).

If reverse (R) is not fully engaged, press the clutch pedal down and return the gearshift to the neutral (N) position. Release the clutch pedal for a moment, then raise the collar and shift to reverse (R) again.

## Parking Your Vehicle

**WARNING:** Always set the parking brake fully and make sure you shift the gearshift lever to first gear. Switch the ignition off and remove the key whenever you leave your vehicle.

To park your vehicle:

1. Apply the brake and shift into the neutral (N) position.
2. Fully apply the parking brake, hold the clutch pedal down, then shift into first (1).
3. Turn the ignition off.

After you have turned the engine off, you can release the clutch pedal.

## AUTOMATIC TRANSMISSION

(IF EQUIPPED)

**WARNING:** Always fully apply the parking brake and make sure you shift into park (P). Failure to follow this instruction could result in personal injury or death.

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

**Note:** You may not be able to shift out of park (P) unless the intelligent access key is inside your vehicle.



# Transmission

## Understanding the Positions of Your Automatic Transmission

### Putting your vehicle in gear:

1. Fully press down on the brake pedal.
2. Press and hold the button on the top of the gearshift lever.
3. Move the gearshift lever into the desired gear.
4. Release the button and your transmission remains in the selected gear.



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### Transmission Selector Positions

The instrument cluster displays the current gear.

#### Park (P)

This position locks the transmission and prevents the rear wheels from turning. Come to a complete stop before putting your vehicle into and out of park (P).

#### Reverse (R)

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

#### Neutral (N)

With the selector in neutral (N), you can start your vehicle and it is free to roll. Hold the brake pedal down when in this position.

#### Drive (D)

Drive (D) is the normal driving position for the best fuel economy. The overdrive function allows automatic upshifts and downshifts through all gears.

#### Sport (S)

Putting your vehicle in sport (S):

- Provides additional engine braking and extends lower gear operation to enhance performance for uphill climbs, hilly terrain or mountainous areas. This increases engine RPM during engine braking.
- Provides additional lower gear operation through the automatic transmission shift strategy.
- Provides gear upshifts and downshifts more quickly at higher engine speeds.

### SelectShift Automatic™ Transmission (If Equipped)

This feature gives you the ability to change gears up or down as desired.

As long as the engine speed does not exceed the maximum allowable limit, you can downshift the vehicle. SelectShift automatically downshifts at low engine speeds in order to prevent engine stalls.

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

In drive (D) mode, SelectShift automatically upshifts at the optimal max engine speed, regardless of accelerator pedal travel.

# Transmission

In sport (S) mode, SelectShift does not automatically upshift, even if the engine is approaching the RPM limit.

## **Pull the + paddle on the steering wheel to activate SelectShift.**

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



### SelectShift in drive (D):

- Provides a temporary manual mode for performing more demanding maneuvers where you require extra control of gear selection, for example, when towing or overtaking. This mode holds a selected gear for a temporary period of time dependent on driver inputs, for example, steering or accelerator pedal input.

### SelectShift in sport (S):

- Provides a permanent manual gear selection where you require full control of gear selection.

To exit SelectShift mode shift the transmission into another gear, for example, drive (D), or hold the (+) paddle for 2 seconds.

The instrument cluster displays your currently selected gear. If a gear you request is not available due to vehicle conditions, the current gear flashes two times.

## **Brake-Shift Interlock**

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

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

**⚠ WARNING:** If the parking brake is fully released, but the brake warning lamp remains illuminated, the brakes may not be working properly. Have your vehicle checked as soon as possible.

Use the brake shift interlock lever to move the gearshift lever from the park position in the event of an electrical malfunction or if your vehicle has a dead battery.

Apply the parking brake and switch the ignition off before performing this procedure.



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1. Using a flat head screwdriver or similar tool, remove the chrome bezel and gearshift bracket at the base of the gearshift lever.

# Transmission



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2. Locate the white release lever and slide the lever forward when pulling the gearshift lever out of the park (P) position and into the neutral (N) position.
3. Reinstall the chrome bezel and the gearshift bracket.
4. Start your vehicle and release the parking brake.

**Note:** If you use this procedure, contact an authorized dealer as soon as possible.

**Note:** For some markets, this feature is disabled.

## Automatic Transmission Adaptive Learning

This feature is designed to increase durability and provide consistent shift feel over the life of your vehicle. A new vehicle or transmission may have firm or soft shifts. This operation is normal and does not affect function or durability of the transmission. Over time, the adaptive learning process fully updates transmission operation.

## If Your Vehicle Gets Stuck in Mud or Snow

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

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

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

## TECHNICAL SPECIFICATIONS - MACH 1

Item	Description	
Transmission	Tremec 6-speed manual with 215 millimeter dual clutch and dual mass flywheel.	
Driveshaft Rear Axle	3.73 <sup>1</sup>	
Gear Ratios	Gear	Ratio
	1st	3.25
	2nd	2.23
	3rd	1.61
	4th	1.24

# Transmission

Item	Description	
	5th	1.00
	6th	0.63
	Reverse	2.95

<sup>1</sup>3.55 Export Markets

Item	Description	
Transmission	10R80 Automatic Transmission	
Driveshaft Rear Axle	3.55	
Gear Ratios	Gear	Ratio
	1st	4.70
	2nd	2.99
	3rd	2.15
	4th	1.77
	5th	1.52
	6th	1.28
	7th	1.00
	8th	0.85
	9th	0.69
	10th	0.64
	Reverse	4.86

# Rear Axle

---

## **LIMITED SLIP DIFFERENTIAL**

**(IF EQUIPPED)**

### **Traction-Lok™ and TORSEN™ Axles**

These axles provide improved traction on slippery and loose surfaces, particularly when one wheel is on a poor traction surface. Under normal conditions, these axles function like a standard rear axle.

Extended use of tire sizes other than the manufacturer's specified tire size on these axles could result in a permanent reduction in effectiveness. This loss does not affect your normal driving and should not be noticeable.

# Brakes

## GENERAL INFORMATION

**Note:** Occasional brake noise is normal. If a metal-to-metal, continuous grinding or continuous squeal sound is present, the brake linings may be worn-out and an authorized dealer should check them. If the vehicle has continuous vibration or shudder in the steering wheel while braking, an authorized dealer should check your vehicle.

**Note:** Brake dust may accumulate on the wheels, even under normal driving conditions. Some dust is inevitable as the brakes wear and does not contribute to brake noise. See **Cleaning the Wheels** (page 296).

Wet brakes result in reduced braking efficiency. Gently press the brake pedal a few times when driving from a car wash or standing water to dry the brakes.

## Brake Over Accelerator

In the event the accelerator pedal becomes stuck or entrapped, apply steady and firm pressure to the brake pedal to slow the vehicle and reduce engine power. If you experience this condition, apply the brakes and bring your vehicle to a safe stop. Move the transmission to park (P), switch the engine off and apply the parking brake. Inspect the accelerator pedal for any interference. If none are found and the condition persists, have your vehicle towed to the nearest authorized dealer.

## Emergency Brake Assist

Emergency brake assist detects when you brake heavily by measuring the rate at which you press the brake pedal. It provides maximum braking efficiency as long as you press the pedal. Emergency brake assist can reduce stopping distances in critical situations.

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

## Anti-lock Brake System

This system helps you maintain steering control during emergency stops by keeping the brakes from locking.



This lamp momentarily illuminates when you switch the ignition on. If the light does not illuminate during start up, remains on or flashes, the anti-lock braking system may be disabled. Have the system checked by an authorized dealer. If the anti-lock brake system is disabled, normal braking is still effective.

See **Warning Lamps and Indicators** (page 94).

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



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

## HINTS ON DRIVING WITH ANTI-LOCK BRAKES

The anti-lock brake system does not eliminate the risks when:

- You drive too closely to the vehicle in front of you.
- Your vehicle is hydroplaning.

# Brakes

- You take corners too fast.
- The road surface is poor.

**Note:** If the system activates, the brake pedal could pulse and may travel further. Maintain pressure on the brake pedal. You may also hear a noise from the system. This is normal.

## PARKING BRAKE

### Vehicles With Automatic Transmission



**WARNING:** Always set the parking brake and leave your vehicle with the transmission in park (P).

**Note:** If you park your vehicle on a hill and facing uphill, shift into park (P) and turn the steering wheel away from the curb.

**Note:** If you park your vehicle on a hill and facing downhill, shift into park (P) and turn the steering wheel toward the curb.

### Vehicles with Manual Transmission



**WARNING:** Always set the parking brake fully and make sure you shift the gearshift lever to first gear. Switch the ignition off and remove the key whenever you leave your vehicle.

**Note:** If you park your vehicle on a hill and facing uphill, select first gear and turn the steering wheel away from the curb.

**Note:** If you park your vehicle on a hill and facing downhill, select reverse gear and turn the steering wheel toward the curb.

To park your vehicle:

1. Apply the brake and shift into the neutral position.
  2. Fully apply the parking brake, hold the clutch pedal down, then shift into first (1).
  3. Turn the ignition off.
- After you turn the engine off you can now release the clutch pedal.

## All Vehicles



**WARNING:** If the parking brake is fully released, but the brake warning lamp remains illuminated, the brakes may not be working properly. Have your vehicle checked as soon as possible.



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To set the parking brake, pull the parking brake handle up as far as possible.

To release the parking brake:

1. Press and hold the button at the end of the parking brake handle.
2. Pull the handle up slightly, then push the handle down.

# Brakes

## HILL START ASSIST



**WARNING:** The system does not replace the parking brake. When you leave your vehicle, always apply the parking brake and shift the transmission into park (P) for automatic transmission or first gear for manual transmission.



**WARNING:** You must remain in your vehicle when the system turns on. At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.



**WARNING:** The system turns off if there is a malfunction or if you excessively rev the engine.

The system makes it easier to pull away when your vehicle is on a slope without the need to use the parking brake.

When the system activates, your vehicle remains stationary on a slope for a few seconds after you release the brake pedal. This allows you time to move your foot from the brake to the accelerator pedal. The brakes release when the engine has developed sufficient torque to prevent your vehicle from rolling down the slope. This is an advantage when pulling away on a slope, for example from a car park ramp, traffic lights or when reversing uphill into a parking space.

The system activates on any slope that causes your vehicle to roll.

**Note:** *There is no warning lamp to indicate the system is either on or off.*

## Using Hill Start Assist

1. Press the brake pedal to bring your vehicle to a complete standstill. Keep the brake pedal pressed and shift into first gear when facing uphill or reverse (R) when facing downhill.
2. The system activates if the sensors detect that your vehicle is on a slope.
3. When you remove your foot from the brake pedal, your vehicle remains on the slope without rolling away for a few seconds. This hold time increases if you are in the process of driving off.
4. Pull away in the normal manner.

## Switching the System On and Off

### Vehicles with Manual Transmission

You can switch this feature on or off in the information display. The system remembers the last setting when you start your vehicle.

### Vehicles with Automatic Transmission

The system turns on when you switch the ignition on and you cannot switch the system off.



# Traction Control

## PRINCIPLE OF OPERATION

The traction control system helps avoid drive wheel spin and loss of traction.

If your vehicle begins to slide, the system applies the brakes to individual wheels and, when needed, reduces engine power at the same time. If the wheels spin when accelerating on slippery or loose surfaces, the system reduces engine power in order to increase traction.

## USING TRACTION CONTROL



**WARNING:** The stability and traction control light illuminates steadily if the system detects a failure. Make sure you did not manually disable the traction control system using the information display controls or the switch. If the stability control and traction control light is still illuminating steadily, have the system serviced by an authorized dealer immediately. Operating your vehicle with the traction control disabled could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.

The system automatically turns on each time you switch the ignition on.

If your vehicle is stuck in mud or snow, switching traction control off may be beneficial as this allows the wheels to spin.

**Note:** *When you switch traction control off, stability control remains fully active.*

## Switching the System Off



When you switch the system off, a message and an illuminated icon appear on the instrument cluster.

Use the switch again to return the traction control system to normal operation.

The switch for the stability and traction control system is on the instrument panel.

Your vehicle may have MyKey restrictions regarding this feature. See **What Is MyKey** (page 63).

## System Indicator Lights and Messages



The stability and traction control light temporarily illuminates on engine start-up and flashes:

- When a driving condition activates either of the systems.
- If a problem occurs in either of the systems.



The stability and traction control off light temporarily illuminates on engine start-up and stays on:

- When you switch the traction control system off.
- When you select an alternative stability control mode.

# Stability Control

## PRINCIPLE OF OPERATION



**WARNING:** Vehicle modifications involving braking system, aftermarket roof racks, suspension, steering system, tire construction and wheel and tire size may change the handling characteristics of your vehicle and may adversely affect the performance of the electronic stability control system. In addition, installing any stereo loudspeakers may interfere with and adversely affect the electronic stability control system. Install any aftermarket stereo loudspeaker as far as possible from the front center console, the tunnel, and the front seats in order to minimize the risk of interfering with the electronic stability control sensors. Reducing the effectiveness of the electronic stability control system could lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.



**WARNING:** Remember that even advanced technology cannot defy the laws of physics. It's always possible to lose control of a vehicle due to inappropriate driver input for the conditions. Aggressive driving on any road condition can cause you to lose control of your vehicle increasing the risk of personal injury or property damage. Activation of the electronic stability control system is an indication that at least some of the tires have exceeded their ability to grip the road; this could reduce the operator's ability to control the vehicle potentially resulting in a loss of vehicle control, vehicle rollover, personal injury and death. If your electronic stability control system activates, SLOW DOWN.

The system automatically turns on each time you switch the ignition on.

If a fault occurs in either the stability control or the traction control system, you may experience the following conditions:

- The stability and traction control light illuminates steadily.
- The stability control and traction control systems do not enhance your vehicle's ability to maintain traction of the wheels.

If a driving condition activates either the stability control or the traction control system you may experience the following conditions:

- The stability and traction control light flashes.
- Your vehicle slows down.
- Reduced engine power.
- A vibration in the brake pedal.
- The brake pedal is stiffer than usual.
- If the driving condition is severe and your foot is not on the brake, the brake pedal may move as the system applies higher brake force.

The stability control system has several features built into it to help you maintain control of your vehicle:

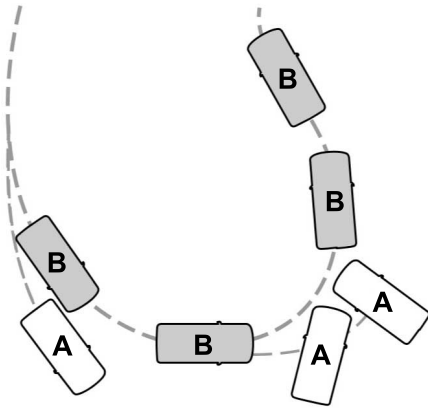
### Electronic Stability Control

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

### Traction Control

The system enhances your vehicle's ability to maintain traction of the wheels by detecting and controlling wheel spin. See **Using Traction Control** (page 174).

# Stability Control



A Vehicle without stability control

- B Vehicle with stability control maintaining control on a slippery surface.

## USING STABILITY CONTROL

### Electronic Stability Control

The system automatically turns on each time you switch the ignition on. The electronic stability control portion of the system is disabled when the transmission is in reverse (R) or, on some models, if you press and hold the electronic stability control button for more than five seconds when you apply the brakes and the vehicle is at a stop. You can switch off the traction control portion of the system independently. See **Using Traction Control** (page 174).

ESC features				
Button functions	Mode	Stability control off light	Electronic stability control	Traction control system
Default at start-up	-	On during bulb check	Enabled	Enabled
Button pressed momentarily	Traction control off	On	Enabled	Disabled
Button pressed twice rapidly	Sport mode (if equipped)	On	Enabled	Enabled
Button pressed and held more than five seconds	ESC disabled	On	Disabled	Disabled
Button pressed again after deactivation	ESC fully enabled	Off	Enabled	Enabled

# Stability Control

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**Note:** *Do not use the Sport stability control setting on public roadways.*


Some models may also come equipped with a sport mode which allows the driver to reduce normal electronic stability control system intervention and provide a more spirited driving experience. To enter sport mode, toggle the stability control button twice rapidly. The message appears in the information display that the system is now in sport mode.


For vehicles equipped with the selectable drive mode feature, electronic stability control sport mode is not available. You can utilize the performance oriented electronic stability control mode by selecting track drive mode. In this mode, electronic stability control intervention is reduced and tuned specifically for track use only and is not for use on public roads. In all of the selectable drive modes, you can disable traction control and electronic stability control with the electronic stability control switch.


# Parking Aids


## PRINCIPLE OF OPERATION


 **WARNING:** To help avoid personal injury, always use caution when in reverse (R) and when using the sensing system.


 **WARNING:** The system may not detect objects with surfaces that absorb reflection. Always drive with due care and attention. Failure to take care may result in a crash.

 **WARNING:** Traffic control systems, inclement weather, air brakes, external motors and fans may affect the correct operation of the sensing system. This may cause reduced performance or false alerts.

 **WARNING:** The system may not detect small or moving objects, particularly those close to the ground.

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

 **WARNING:** The parking aid system can only assist you to detect objects when your vehicle is moving at parking speeds. To help avoid personal injury you must take care when using the parking aid system.

 **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 function if the sensor is blocked.

**Note:** If your vehicle has MyKey™, the sensing system cannot be switched off when a MyKey™ is present. See **What Is MyKey** (page 63).

**Note:** Do not clean the sensors with sharp objects.

**Note:** If your vehicle sustains damage to the bumper or fascia and you leave it misaligned or bent, the sensing zone may be altered causing inaccurate measurement of obstacles or false alerts.

**Note:** Certain add-on devices installed around the bumper or fascia may create false alerts. For example, large trailer hitches, bike or surfboard racks, license plate brackets, bumper covers or any other device that may block the normal detection zone of the system. Remove the add-on device to prevent false alerts.

**Note:** When you connect a trailer to your vehicle, the rear parking aid may detect the trailer and therefore provide an alert. Disable the rear parking aid when you connect a trailer to prevent the alert.

The sensing system warns you of obstacles within a certain range of your vehicle. The system turns on when you switch the ignition on.

You can switch the system off through the information display menu or from the pop-up message that appears once you shift the transmission into reverse (R). See

**General Information** (page 99). If your vehicle has a parking aid button, you can switch the system off by pressing the button. The system turns on when you switch the ignition on.

If a fault is present in the system, a warning message appears in the information display. See **Information Messages** (page 113).

# Parking Aids

## REAR PARKING AID (IF EQUIPPED)



**WARNING:** The system may not detect objects with surfaces that absorb reflection. Always drive with due care and attention. Failure to take care may result in a crash.



**WARNING:** The system may not detect small or moving objects, particularly those close to the ground.



**WARNING:** To help avoid personal injury, always use caution when in reverse (R) and when using the sensing system.



**WARNING:** The parking aid system can only assist you to detect objects when your vehicle is moving at parking speeds. To help avoid personal injury you must take care when using the parking aid system.

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

**Note:** Do not cover up the sensors.

**Note:** Do not clean the sensors with sharp objects.

**Note:** If your vehicle sustains damage leaving the sensors misaligned, this may cause inaccurate measurements or false alerts.

**Note:** Some accessories, for example large trailer hitches or bike or surfboard racks can cause reduced performance or false alerts.

The sensors are on the rear bumper.

The sensors are active when the transmission is in reverse (R) and the vehicle speed is less than 3 mph (5 km/h). When the parking aid system sounds a tone, the audio system may reduce the set volume.

A warning tone sounds when your vehicle approaches an object. As your vehicle moves closer to an object, the rate of the tone increases. The warning tone continuously sounds when an object is 12 in (30 cm) or less from the center of the rear bumper.

**Note:** There is a decreased coverage area at the outer corners.



The sensor coverage area is up to 70 in (180 cm) from the rear bumper.

If the system detects a fault, a warning message appears in the information display.

The system detects large objects when you shift into reverse (R) and any of the following occur:

- Your vehicle is moving backward at low speed.
- Your vehicle is stationary but an object is approaching the rear of your vehicle at low speed.
- Your vehicle is moving backward at low speed and an object is moving toward your vehicle, for example another vehicle at low speed.

# Parking Aids

If your vehicle remains stationary for two seconds the audible warning turns off. If your vehicle moves backward the tone sounds again.

**Note:** *If the detected object is 12 in (30 cm) or less from the rear bumper, the audible warning does not turn off.*

## Object Distance Indicator (If Equipped)



The system provides object distance indication through the information display.

- As the distance to the object decreases, the indicator blocks illuminate and move toward the vehicle icon.
- If the system does not detect an object, the distance indicator blocks are gray.

When you shift into reverse (R), the system provides audible warnings and visual indication when your vehicle is moving and the detected object is moving toward your vehicle. When you stop your vehicle, the audible warnings stop after two seconds. Visual indication remains on when the transmission is in reverse (R).

## REAR VIEW CAMERA

**WARNING:** The rear view camera system is a reverse aid supplement device that still requires the driver to use it in conjunction with the interior and exterior mirrors for maximum coverage.

**WARNING:** Objects that are close to either corner of the bumper or under the bumper, might not be seen on the screen due to the limited coverage of the camera system.

**WARNING:** Reverse your vehicle as slow as possible, higher speeds may limit your reaction time to stop your vehicle.

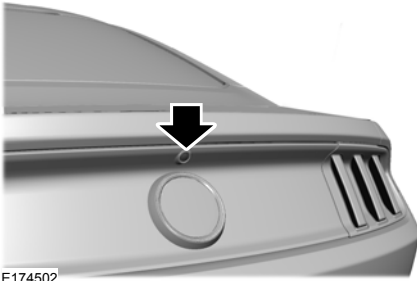
**WARNING:** Use caution when the rear cargo door is ajar. If the rear cargo door is ajar, the camera will be out of position and the video image may be incorrect. All guidelines disappear when the rear cargo door is ajar. Some vehicles may not come equipped with guidelines.

**WARNING:** Do not switch the camera features on or off when your vehicle is moving.

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

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

# Parking Aids



E174502

The camera is located on the rear cargo door.

## Using the Rear View Camera System

The rear view camera system displays what is behind your vehicle when you place the transmission in reverse (R).

**Note:** *The reverse sensing system is not effective at speeds above 3 mph (5 km/h) and may not detect certain angular or moving objects.*

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

- Fixed guidelines: Show the actual path your vehicle is moving in while reversing in a straight line. This can be helpful when backing into a parking space or aligning your vehicle with another object behind you.
- Centerline: Helps align the center of your vehicle with an object.

**Note:** *If the transmission is in reverse (R) and the luggage compartment is open, no camera features will display.*

The camera may not operate correctly under the following conditions:

- Nighttime or dark areas if the reverse lamps are not operating.
- Mud, water or debris obstructs the camera's view. Clean the lens with a soft, lint-free cloth and non-abrasive cleaner.
- The camera is misaligned due to damage to the rear of your vehicle.

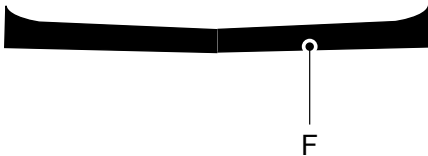
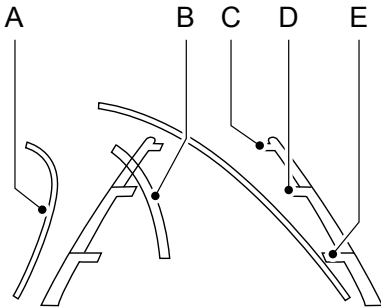
## Camera Guidelines

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

**Note:** *Upon a battery disconnect, the active guidelines may not be functional until your vehicle has been driven a short distance and exceeds a speed of 12 mph (20 km/h).*



# Parking Aids



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

Active guidelines only show with fixed guidelines. To use active guidelines, turn the steering wheel to point the guidelines toward an intended path. If the steering wheel position changes while reversing, your vehicle might deviate from the original intended path.

The fixed and active guidelines fade in and out depending on the steering wheel position. The active guidelines do not show when the steering wheel position is straight.

Always use caution while reversing. Objects in the red zone are closest to your vehicle and objects in the green zone are farther away. Objects are getting closer to your vehicle as they move from the green zone to the yellow or red zones. Use the side view mirrors and rear view mirror to get better coverage on both sides and rear of your vehicle.

## Manual Zoom



**WARNING:** When manual zoom is on, the full area behind your vehicle may not show. Be aware of your surroundings when using the manual zoom feature.

**Note:** *Manual zoom is only available when the transmission is in reverse (R). When manual zoom is enabled, only the centerline is shown.*

Selectable settings for this feature are Zoom in (+) and Zoom out (-). Press the symbol in the camera screen to change the view. The default setting is Zoom OFF.

This feature allows you to get a closer view of an object behind your vehicle. The zoomed image keeps the bumper in the image to provide a reference. The zoom is only active while the transmission is in reverse (R). When the transmission shifts out of reverse (R), the feature automatically turns off and must be reset when it is used again.

## Camera System Settings

The rear view camera system settings can be accessed through the display screen. See **General Information** (page 99).

# Parking Aids

## **Enhanced Park Aids or Park Pilot**

Selectable settings for this feature are ON and OFF.

The system uses red, yellow and green highlights that appear on top of the video image when any of the sensing systems detect an object.

## **Vehicles equipped with touchscreen**

The system will provide an image of your vehicle and the sensor zones. The zones will highlight green, yellow and red when the parking aid sensors detect an object in the coverage area.

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

When shifting the transmission out of reverse (R) and into any gear other than park (P), the camera image remains in the display until:

- Your vehicle speed sufficiently increases.
- You shift your vehicle into park (P).
- You pull the hand brake on vehicles with a manual transmission.



For additional information of the zone coverage and the rear sensing system. See **Principle of Operation** (page 178).

## **Rear Camera Delay**

Selectable settings for this feature are ON and OFF.

The default setting for the rear camera delay is OFF.

# Cruise Control

## WHAT IS CRUISE CONTROL

Cruise control lets you maintain a set speed without keeping your foot on the accelerator pedal.

### Requirements

Use cruise control when the vehicle speed is greater than 20 mph (30 km/h).

## SWITCHING CRUISE CONTROL ON AND OFF



**WARNING:** Do not use cruise control on winding roads, in heavy traffic or when the road surface is slippery. This could result in loss of vehicle control, serious injury or death.

The cruise controls are on the steering wheel. See **Cruise Control** (page 76).

### Switching Cruise Control On

**ON**

Press the button.

### Switching Cruise Control Off

**OFF**

Press the button when the system is in standby mode.

The system also turns off when you switch the ignition off.

**Note:** *The set speed erases when you switch the system off.*

## SETTING THE CRUISE CONTROL SPEED



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

Drive to the speed you prefer.

**SET+**

Press either button to set the current speed.

**SET-**

Take your foot off the accelerator pedal.

**Note:** *The indicator changes color in the information display.*

### Changing the Set Speed

**SET+**

Press and release the button to increase the set speed in small increments.

Press and hold the button to accelerate. Release the button when you reach your preferred speed.

**SET-**

Press and release the button to decrease the set speed in small increments.

Press and hold the button to decelerate. Release the button when you reach your preferred speed.

**Note:** *If you accelerate by pressing the accelerator pedal, the set speed does not change. When you release the accelerator pedal, your vehicle returns to the speed that you previously set.*

# Cruise Control

## CANCELING THE SET SPEED



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

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

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

## RESUMING THE SET SPEED



Press the button.

## CRUISE CONTROL INDICATORS



Illuminates when you switch the system on.

## USING ADAPTIVE CRUISE CONTROL (IF EQUIPPED)



**WARNING:** Always pay close attention to changing road conditions when using the system. It does not replace attentive driving. Failure to follow this instruction could result in personal injury or death.



**WARNING:** The system only warns of vehicles detected by the radar sensor. In some cases there may be no warning or a delayed warning. Apply the brakes when necessary. Failure to follow this instruction could result in personal injury or death.



**WARNING:** Do not use the system when entering or leaving a highway, on roads with intersections or roundabouts or non-vehicular traffic or roads that are winding, slippery, unpaved, or steep slopes.



**WARNING:** Do not use the system in poor visibility, for example fog, heavy rain, spray or snow.



**WARNING:** Do not use tire sizes other than those recommended because this can affect the normal operation of the system. Failure to do so may result in a loss of vehicle control, which could result in serious injury.



**WARNING:** The system may not detect stationary or slow moving vehicles below 6 mph (10 km/h).



**WARNING:** The system does not detect pedestrians or objects in the road.



**WARNING:** The system does not detect oncoming vehicles in the same lane.



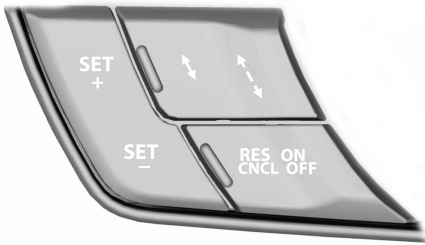
**WARNING:** The system is not a crash warning or avoidance system.

**Note:** *It is your responsibility to stay alert, drive safely and be in control of the vehicle at all times.*

The system adjusts your vehicle speed to maintain the set gap between you and the vehicle in front of you in the same lane. You can select four gap settings.

The system uses a radar sensor that projects a beam directly in front of your vehicle.

# Cruise Control



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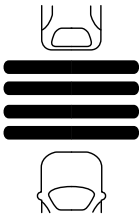
The adaptive cruise controls are on the steering wheel.

## Switching Adaptive Cruise Control On

Press **ON**.



The indicator, current gap setting and set speed appear in the information display.

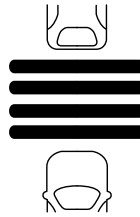


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## Setting the Adaptive Cruise Speed

**Note:** When adaptive cruise control is active, the speedometer may vary slightly from the set speed displayed in the information display.

1. Drive to desired speed.
2. Press **SET+** or **SET-**.
3. A green indicator light, the current gap setting and your set speed appear in the information display.
4. Take your foot off the accelerator pedal.



E164805

5. A vehicle image illuminates if the system detects a vehicle in front of you.

## Following a Vehicle



**WARNING:** When following a vehicle that is braking, your vehicle does not always decelerate quickly enough to avoid a crash without driver intervention. Apply the brakes when necessary. Failure to follow this instruction could result in personal injury or death.



**WARNING:** The system only warns of vehicles detected by the radar sensor. In some cases there may be no warning or a delayed warning. Apply the brakes when necessary. Failure to follow this instruction could result in personal injury or death.

**Note:** When you are following a vehicle and you switch on a direction indicator, adaptive cruise control may provide a small temporary acceleration to help you pass.

**Note:** The brakes may emit noise when applied by the system.

When a vehicle ahead of you enters the same lane or a slower vehicle is ahead in the same lane, the vehicle speed adjusts to maintain a preset gap distance. A vehicle graphic illuminates in the instrument cluster.

# Cruise Control

Your vehicle maintains a consistent gap from the vehicle ahead until:

- The vehicle in front of you accelerates to a speed above the set speed.
- The vehicle in front of you moves out of the lane you are in.
- Your vehicle speed falls below 12 mph (20 km/h).
- You set a new gap distance.

The system applies the brakes to slow your vehicle to maintain a safe gap distance from the vehicle in front. The system only applies limited braking. You can override the system by applying the brakes.

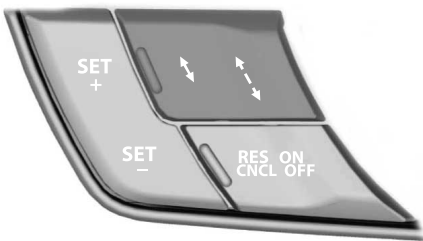
If the system determines that its maximum braking level is not sufficient, an audible warning sounds, a message appears in the information display and an indicator flashes when the system continues to brake. Take immediate action.

## Setting the Gap Distance

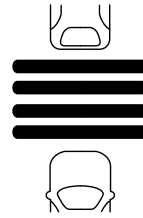
**Note:** *The gap setting is time dependent and therefore the distance adjusts with your vehicle speed.*

**Note:** *It is your responsibility to select a gap appropriate to the driving conditions.*

You can decrease or increase the distance between your vehicle and the vehicle in front by pressing the gap control.



E177070



E164805


The selected gap appears in the information display as shown by the bars in the image.

## Adaptive Cruise Control Gap Settings

Graphic Display, Bars Indicated Between Vehicles	Distance Gap	Dynamic Behavior
1	Closest.	Sport.
2	Close.	Normal.
3	Medium.	Normal.
4	Far.	Comfort.

Each time you switch the system on, it selects the last chosen gap setting.

## Overriding the Set Speed

 **WARNING:** If you override the system by pressing the accelerator pedal, it does not automatically apply the brakes to maintain a gap from any vehicle ahead.

When you press the accelerator pedal, you override the set speed and gap distance.

# Cruise Control



When you override the system, the green indicator light illuminates and the vehicle

image does not appear in the information display.

The system resumes operation when you release the accelerator pedal. The vehicle speed decreases to the set speed, or a lower speed if following a slower vehicle.

## Changing the Set Speed

- Press **SET+** or **SET-** to change the set speed in small increments.
- Press the accelerator or brake pedal until you reach the desired speed. Press **SET+** or **SET-**.
- Press and hold **SET+** or **SET-** to change the set speed in large increments. Release the control when you reach the desired speed.

The system may apply the brakes to slow the vehicle to the new set speed. The set speed displays continuously in the information display when the system is active.

## Canceling the Set Speed

Press **CNCL** or tap the brake pedal. The set speed does not erase.

**Note:** For vehicles with manual transmission, if you press the clutch pedal for an extended period, this action also cancels the set speed.

## Resuming the Set Speed

**Note:** Only use **resume** if you are aware of the set speed and intend to return to it.

Press **RES**. Your vehicle speed returns to the previously set speed and gap setting. The set speed displays continuously in the information display when the system is active.

## Automatic Cancellation

**Note:** If the engine speed drops too low, an audible warning sounds and a message appears in the information display. Automatic braking releases.

The system does not operate below 12 mph (20 km/h).

## Hilly Condition Usage

**Note:** An audible alarm sounds and the system shuts down if it applies brakes for an extended period of time. This allows the brakes to cool. The system functions normally again after the brakes cool.

Select a lower gear when the system is active in situations such as prolonged downhill driving on steep grades, for example in mountainous areas. The system needs additional engine braking in these situations to reduce the load on the vehicle's regular brake system to prevent it from overheating.

## Switching Adaptive Cruise Control Off

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

Press **OFF** when the system is in standby mode, or switch the ignition off.

## Detection Issues



**WARNING:** On rare occasions, detection issues can occur due to the road infrastructures, for example bridges, tunnels and safety barriers. In these cases, the system may brake late or unexpectedly. At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required.

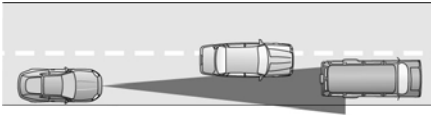
# Cruise Control



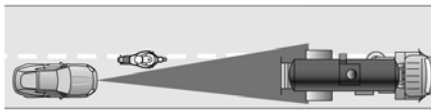
**WARNING:** If the system malfunctions, have your vehicle checked as soon as possible.

The radar sensor has a limited field of view. It may not detect vehicles at all or detect a vehicle later than expected in some situations. The lead vehicle graphic does not illuminate if the system does not detect a vehicle in front of you.

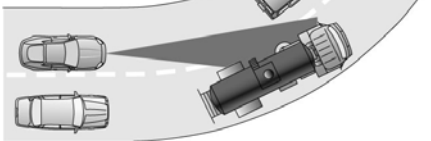
**A**



**B**



**C**



Detection issues can occur:

- A When driving on a different line than the vehicle in front.
- B With vehicles that edge into your lane. The system can only detect these vehicles once they move fully into your lane.
- C There may be issues with the detection of vehicles in front when driving into and coming out of a bend or curve in the road.

In these cases, the system may brake late or unexpectedly. You should stay alert and take action when necessary.

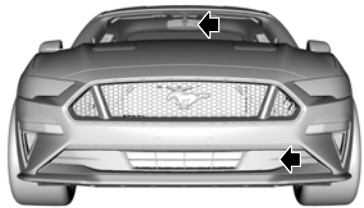
If something hits the front end of your vehicle or damage occurs, the radar-sensing zone may change. This could cause missed or false vehicle detection.

## System Not Available

The system may not turn on if there is:

- A blocked sensor.
- High brake temperature.
- A failure in the system or a related system.

## Blocked Sensor



E252419

**Note:** You cannot see the sensor. It is behind the bumper fascia.



# Cruise Control

A message displays if something obstructs the radar signals from the sensor. The sensor is in the lower grille. The system

cannot detect a vehicle ahead and does not function when something blocks the sensor.

## Possible Causes and Actions for This Message Displaying:

Cause	Action
The surface of the radar 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 is clean but the message remains in the display.	Wait a short time. It may take several minutes for the radar to detect that it is free from obstruction.
Heavy rain or snow is interfering with the radar signals.	Do not use the system in these conditions because it may not detect any vehicles ahead.
Water, snow or ice on the surface of the road may interfere with the radar signals.	Do not use the system in these conditions because it may not detect any vehicles ahead.

Due to the nature of radar technology, it is possible to get a blockage warning with no actual block. This happens, for example, when driving in sparse rural or desert environments. A false blocked condition either self clears, or clears after you restart your vehicle.

## Switching to Normal Cruise Control



**WARNING:** Normal cruise control will not brake when your vehicle is approaching slower vehicles. Always be aware of which mode you have selected and apply the brakes when necessary.

You can change from adaptive cruise control to normal cruise control through the information display.



The cruise control indicator light replaces the adaptive cruise control indicator light if you select normal cruise control. The gap setting does not display, and the system does not respond to lead vehicles. Automatic braking remains active to maintain set speed.

# Driving Aids

## DRIVER ALERT (IF EQUIPPED)



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



**WARNING:** The system may not function if the sensor is blocked.



**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.



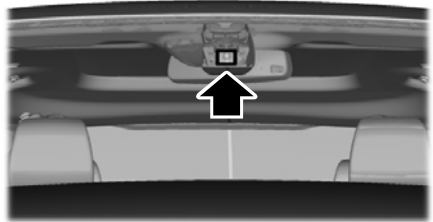
**WARNING:** If damage occurs in the immediate area surrounding the sensor, have your vehicle checked as soon as possible.



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

**Note:** Keep the windshield free from obstructions. For example, bird droppings, insects and snow or ice.

**Note:** If the camera is blocked or if the windshield is damaged, the system may not function.



E249505

The system automatically monitors your driving behavior using various inputs including the front camera sensor.

If the system detects that your driving alertness is reduced below a certain threshold, the system will alert you using a tone and a message in the information display.

## Using Driver Alert

### Switching the system on and off

You may switch the system on or off through the information display. See **General Information** (page 99). When activated, the system will monitor your alertness level based upon your driving behavior in relation to the lane markings and other factors.

### System Warnings

**Note:** The system does not issue warnings below approximately 40 mph (64 km/h).

# Driving Aids

The warning system is in two stages. At first the system issues a temporary warning that you need to take a rest. This message will only appear for a short time. If the system detects further reduction in driving alertness, another warning may be issued which will remain in the information display for a longer time. Press OK on the steering wheel control to clear the warning

## System Display

When active the system will run automatically in the background and only issue a warning if required.

**Note:** *If the camera sensor cannot track the road lane markings or if your vehicle speed drops below approximately 40 mph (64 km/h), the system does not issue warnings.*

## Resetting the System

You can reset the system by either:

- Switching the ignition off and on.
- Stopping the vehicle and then opening and closing the driver's door.

## LANE KEEPING SYSTEM



**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:** Always drive with due care and attention when using and operating the controls and features on your vehicle.



**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:** The sensor may incorrectly track lane markings as other structures or objects. This can result in a false or missed warning.



**WARNING:** Large contrasts in outside lighting can limit sensor performance.



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



**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.

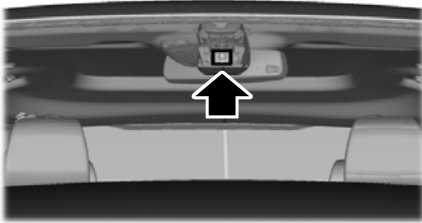
**Note:** *The system works above 40 mph (64 km/h).*

**Note:** *The system works as long as the camera can detect one lane marking.*

**Note:** *The system may not function if the camera is blocked, or if the windshield is damaged or dirty.*

# Driving Aids

**Note:** When you select aid or both modes and the system detects no steering activity for a short period, the system alerts you to put your hands on the steering wheel. **The system may detect a light grip or touch on the steering wheel as hands off driving.**



E249505

When you switch the system on and it detects an unintentional drift out of your lane is likely to occur, the system notifies or assists you to stay in your lane through the steering system and information display. In Alert mode, the system provides a warning by vibrating the steering wheel. In Aid mode, the system provides steering assistance by gently counter steering your vehicle back into the lane.

When the system is functioning in the combined Alert and Aid mode, the system first provides steering assistance by gently counter steering your vehicle back into the lane, followed by a warning by vibrating the steering wheel if the vehicle is still out of the lane markings.

## Switching the System On and Off

**Note:** The system on or off setting remains stored until you manually change it unless the system detects a MyKey. If the system detects a MyKey, it defaults to on and the mode sets to alert.



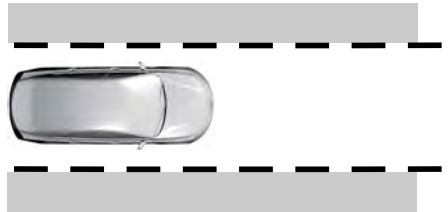
E132099

Press the button on the direction indicator stalk to switch the system on or off.

## System Settings

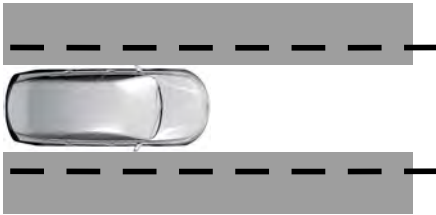
The system allows you to change the following settings; Mode and Intensity. To view or adjust the settings, See **Settings** (page 423). The system stores the last-known selection for each of these settings. You do not need to readjust your settings each time you switch on the system.

**Mode:** This setting allows you to select which of the system features you can enable.

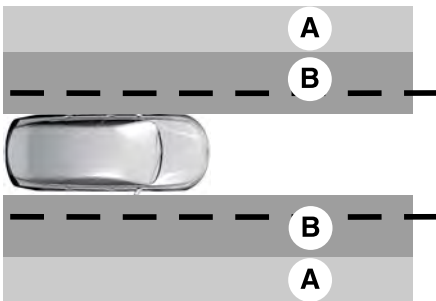


Alert only – Provides a steering wheel vibration when the system detects an unintended lane departure.

# Driving Aids



Aid only – Provides steering assistance toward the lane center when the system detects an unintended lane departure.



- A Alert
- B Aid

Alert + Aid – Provides steering assistance toward the lane center.

If your vehicle continues drifting out of the lane after the lane keeping aid corrects the vehicle, the system provides a steering wheel vibration.

**Note:** The alert and aid diagrams illustrate general zone coverage. They do not provide exact zone parameters.

**Intensity:** This setting affects the intensity of the steering wheel vibration used for the alert and alert + aid modes. **This setting does not affect the aid mode.**

- Low
- Normal
- High

## System Display



E267130

If you switch the system on, a graphic with lane markings appears in the information display.

**Note:** Graphics can vary depending on the instrument cluster available in your vehicle.



E267131

If you have adaptive cruise control enabled and you are following a vehicle, additional graphics appear in the display.

When you switch off the system, the lane marking graphics do not display.

When the system is on, the color of the lane markings change to indicate the system status.

# Driving Aids

Gray: Indicates that the system is temporarily unable to provide a warning or intervention on the indicated side(s). This may be because:

- Your vehicle is under the activation speed.
- The direction indicator is active.
- Your vehicle is in a dynamic maneuver.
- The road has no or poor lane markings in the camera field-of-view.
- The camera is obscured or unable to detect the lane markings due to environmental, traffic or vehicle conditions. For example, significant sun angles, shadows, snow, heavy rain or fog, following a large vehicle that is blocking or shadowing the lane or poor headlamp illumination.

See **Troubleshooting** for additional information.

Green: Indicates that the system is available or ready to provide a warning or intervention, on the indicated side(s).

Yellow or Animated Graphics: Indicate that the system is providing or has just provided a lane keeping aid intervention.

Red: Indicates that the system is providing or has just provided a lane keeping alert warning.

The system can be temporarily suppressed at any time by the following:

- Quick braking.
- Fast acceleration.
- Using the direction indicator.
- Evasive steering maneuver.
- Driving too close to the lane markings.

## Troubleshooting

<b>Why is the feature not available (line markings are gray) when I can see the lane markings on the road?</b>
Your vehicle speed is outside the operational range of the feature.
The sun is shining directly into the camera lens.
A quick intentional lane change has occurred.
Your vehicle stays too close to the lane markings.
Driving at high speeds in curves.
The last alert warning or aid intervention occurred a short time ago.
Ambiguous lane markings, for example in construction zones.
Rapid transition from light to dark, or from dark to light.
Sudden offset in lane markings.
ABS or AdvanceTrac™ is active.
There is a camera blockage due to dirt, grime, fog, frost or water on the windshield.
You are driving too close to the vehicle in front of you.

# Driving Aids

<b>Why is the feature not available (line markings are gray) when I can see the lane markings on the road?</b>
--

Transitioning between no lane markings to lane markings or vice versa.
--

There is standing water on the road.
--------------------------------------

Faint lane markings, for example partial yellow lane markings on concrete roads.
--

Lane width is too narrow or too wide.
---------------------------------------

The camera has not been calibrated after a windshield replacement.
--

Driving on tight roads or on uneven roads.
--

<b>Why does the vehicle not come back toward the middle of the lane, as expected, in the Aid or Aid + Alert mode?</b>
---

High cross winds are present.
-------------------------------

There is a large road crown.
------------------------------

Rough roads, grooves or shoulder drop-offs.
---

Heavy uneven loading of the vehicle or improper tire inflation pressure.
--

The tires have been changed, or the suspension has been modified.
---

## BLIND SPOT INFORMATION SYSTEM (IF EQUIPPED)

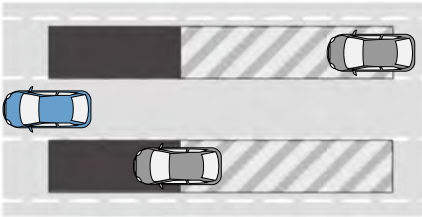


<b>WARNING:</b> Do not use the blind spot information system as a replacement for using the interior and exterior mirrors or looking over your shoulder before changing lanes. The blind spot information system is not a replacement for careful driving.
--

# Driving Aids



**WARNING:** The system may not operate properly during severe weather conditions, for example snow, ice, heavy rain and spray. Always drive with due care and attention. Failure to take care may result in a crash.



The system is designed to detect vehicles that may have entered the blind spot zone. The detection area is on both sides of your vehicle, extending rearward from the exterior mirrors to approximately 13 ft (4 m) beyond the rear bumper. The detection area extends to approximately 59 ft (18 m) beyond the rear bumper when the vehicle speed is greater than 30 mph (48 km/h) to alert you of faster approaching vehicles.

**Note:** The system does not prevent contact with other vehicles. It is not designed to detect parked vehicles, pedestrians, animals or other infrastructures.

## Using the Blind Spot Information System

### Vehicles with Automatic Transmission

The system turns on when all of the following occur:

- You start your vehicle.
- You shift into drive (D).
- The vehicle speed is greater than 6 mph (10 km/h).

**Note:** The system does not operate in park (P) or reverse (R).

### Vehicles with Manual Transmission

The system turns on when all of the following occur:

- You start your vehicle.
- The vehicle speed is greater than 6 mph (10 km/h).

**Note:** The system does not operate in reverse (R).

## System Lights and Messages



When the system detects a vehicle, an alert indicator illuminates in the exterior mirror on the side the approaching vehicle is coming from. If you turn the direction indicator on for that side of your vehicle, the alert indicator flashes.



# Driving Aids

**Note:** The system may not alert you if a vehicle quickly passes through the detection zone.

## Blocked Sensors



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

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

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

**Note:** Blocked sensors could affect system performance.

If the sensors become blocked, a message may appear in the information display. See **Information Messages** (page 113). The alert indicators remain illuminated but the system does not alert you.

## System Errors

If the system detects a fault, a warning lamp illuminates and a message displays. See **Information Messages** (page 113).

## Switching the System On and Off

You can switch the system off using the information display. See **General Information** (page 99). When you switch the system off, a warning lamp illuminates and a message displays. When you switch the system on or off, the alert indicators flash twice.

**Note:** The system remembers the last setting when you start your vehicle.

**Note:** The system may not correctly operate when towing a trailer. For vehicles with a trailer tow module and tow bar approved by us, the system turns off when you attach a trailer. For vehicles with an aftermarket trailer tow module or tow bar, we recommend that you switch the system off when you attach a trailer.

To permanently switch the system off, contact an authorized dealer.

## CROSS TRAFFIC ALERT (IF EQUIPPED)



**WARNING:** Do not use the cross traffic alert system as a replacement for using the interior and exterior mirrors or looking over your shoulder before reversing out of a parking space. The cross traffic alert system is not a replacement for careful driving.



**WARNING:** The system may not operate properly during severe weather conditions, for example snow, ice, heavy rain and spray. Always drive with due care and attention. Failure to take care may result in a crash.

The system alerts you of vehicles approaching from the sides behind your vehicle when you shift into reverse (R).

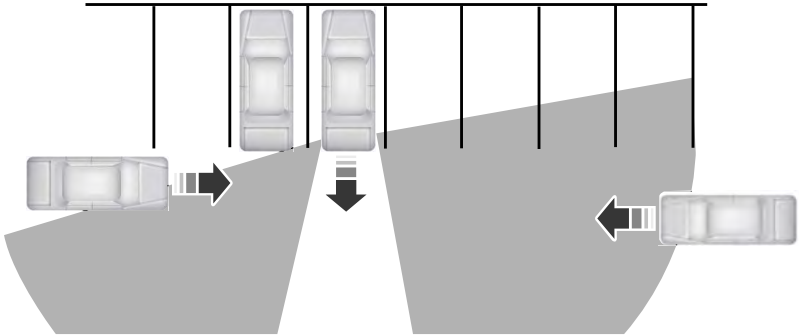
## Using Cross Traffic Alert

The system detects vehicles that approach at a speed between 4 mph (6 km/h) and 37 mph (60 km/h). Coverage decreases when the sensors are partially, mostly or fully obstructed. Slowly reversing helps increase the coverage area and effectiveness.

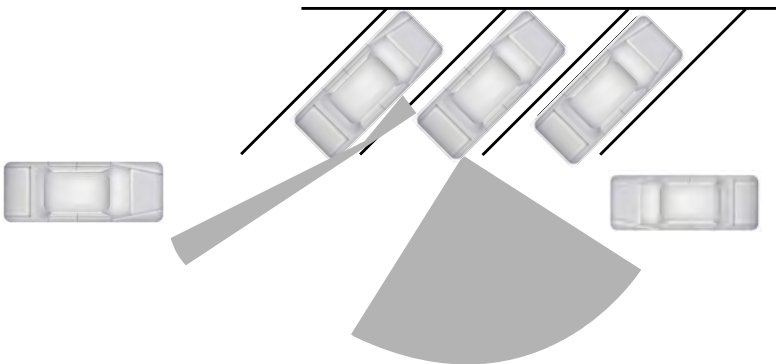
# Driving Aids

The system turns on when you start the engine and you shift into reverse (R). The

system turns off when you shift out of reverse (R).



The sensor on the left-hand side is only partially obstructed and zone coverage on the right-hand side is maximized.



# Driving Aids

Zone coverage also decreases when parking at narrow angles. The sensor on the left-hand side is mostly obstructed and zone coverage on that side is severely reduced.

## Cross Traffic Alert System Sensors



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

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

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

**Note:** Blocked sensors could affect system performance.

**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 the sensors are blocked, a message may appear in the information display when you shift into reverse (R).

## Cross Traffic Alert System Limitations

The system may not correctly operate when any of the following occur:

- The sensors are blocked.
- Adjacently parked vehicles or objects are obstructing the sensors.
- Vehicles approach at speeds less than 4 mph (6 km/h) or greater than 37 mph (60 km/h).

- The vehicle speed is greater than 7 mph (12 km/h).
- You reverse out of an angled parking space.

## Cross Traffic Alert Behavior When Trailer is Attached

**Note:** The system may not correctly operate when towing a trailer. For vehicles with an approved trailer tow module and tow bar, the system turns off when you attach a trailer. For vehicles with an aftermarket trailer tow module or tow bar, we recommend that you switch the system off when you attach a trailer.

Cross traffic alert remains on when you attach a trailer in vehicles that come with blind spot information system with trailer tow under the following conditions:

- You connect a trailer.
- The trailer is a bike rack or cargo rack with a maximum length of 3 ft (1 m).
- You set the trailer length to 3 ft (1 m) in the information display.

See **Blind Spot Information System** (page 196).

## Switching the System On and Off

To switch the system on or off, adjust the setting. Depending on your vehicle options, the setting could be in the following:

- Information display. See **General Information** (page 99).
- Touchscreen. See **Settings** (page 423).

**Note:** The system turns on every time you switch the ignition on. To permanently switch the system off, contact an authorized dealer.

# Driving Aids

## Cross Traffic Alert Indicator



When the system detects an approaching vehicle, a tone sounds, a warning lamp illuminates in the relevant exterior mirror and arrows appear in the information display to show which side the approaching vehicle is coming from.

**Note:** If arrows do not display, a message appears in the information display.

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

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

## Cross Traffic Alert Information Messages

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

## STEERING

### Electric Power Steering



**WARNING:** The electric power steering system has diagnostic checks that continuously monitor the system. If a fault is detected, a message displays in the information display. Stop your vehicle as soon as it is safe to do so. Switch the ignition off. After at least 10

seconds, switch the ignition on and watch the information display for a steering system warning message. If a steering system warning message returns, have the system checked as soon as possible.



**WARNING:** If the system detects an error, you may not feel a difference in the steering, however a serious condition may exist. Have your vehicle checked as soon as possible. Failure to do so may result in loss of steering control.

Your vehicle has an electric power steering system, there is no fluid reservoir, no maintenance is required.

# Driving Aids

If your vehicle loses electrical power while you are driving, electric power steering assistance is lost. The steering system still operates and you can steer your vehicle manually. Manually steering your vehicle requires more effort.

Extreme continuous steering may increase the effort required for you to steer your vehicle, this increased effort prevents overheating and permanent damage to the steering system. You do not lose the ability to steer your vehicle manually. Typical steering and driving maneuvers allow the system to cool and return to normal operation.

## Steering Tips

If the steering wanders or pulls, check for:

- Correct tire pressures.
- Uneven tire wear.
- Loose or worn suspension components.
- Loose or worn steering components.
- Improper vehicle alignment.

**Note:** *A high crown in the road or high crosswinds may also make the steering seem to wander or pull.*

## Adaptive Learning (If Equipped)

The electronic power steering system adaptive learning helps correct road irregularities and improves overall handling and steering feel. It communicates with the brake system to help operate advanced stability control and accident avoidance systems. Additionally, whenever the battery is disconnected or a new battery installed, you must drive your vehicle a short distance before the system relearns the strategy and reactivates all systems.

## PRE-COLLISION ASSIST (IF EQUIPPED)



**WARNING:** You must remain in your vehicle when the system turns on. At all times, you are responsible for controlling your vehicle, supervising the system and intervening, if required. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.



**WARNING:** The system does not detect vehicles that are driving in a different direction, cyclists 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 fail or operate with reduced function during cold and severe weather conditions. Snow, ice, rain, spray and fog can adversely affect the system. Keep the front camera and radar free of snow and ice. Failure to take care may result in the loss of control of your vehicle, serious personal injury or death.



**WARNING:** Some situations and objects prevent hazard detection. For example low or direct sunlight, inclement weather, unconventional vehicle types, and pedestrians. Apply the brakes when necessary. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.

# Driving Aids



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

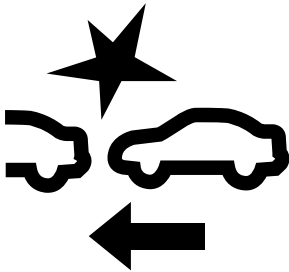
## Using the Pre-Collision Assist System

The system is active at speeds above 3 mph (5 km/h) and pedestrian detection is active at speeds up to 50 mph (80 km/h).



If your vehicle is rapidly approaching another stationary vehicle, a vehicle traveling in the same direction as yours, or a pedestrian within your driving path, the system provides three levels of functionality:

1. Alert.
2. Brake support.
3. Active braking.



**Alert:** When active, a flashing visual warning 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 can apply additional braking up to maximum braking force, even if you lightly press the brake pedal.

**Active braking:** It activates if the system determines that a collision is about to occur. The system may help the driver reduce impact damage or completely avoid the crash.

**Note:** *Brake support and active braking are active at speeds up to 75 mph (120 km/h). If your vehicle has a radar sensor with adaptive cruise control, then brake support and active braking are active up to the maximum speed of your vehicle.*

**Note:** *If you perceive pre-collision assist alerts as being too frequent or disturbing, you can reduce the alert sensitivity, though the manufacturer recommends using the highest sensitivity setting. Setting lower sensitivity would lead to fewer and later system warnings.*

**Note:** *The system turns off when you manually disable AdvanceTrac™, or when you select track mode.*

## Distance Indication and Alert (if Equipped)

Distance indication and alert provides a graphical indication of the time gap to other preceding vehicles traveling in the same direction. The distance indication and alert screen in the information display shows an image similar to the one that follows.

## Driving Aids



E190004

If the time gap to a preceding vehicle is small, a red visual indication displays to the driver.

**Note:** *Distance indication and alert deactivates and the images do not display when adaptive cruise control is active.*

Speed	Sensitivity	Images	Distance Gap	Time Gap
62 mph (100 km/h)	Normal	Grey	>82 ft (25 m)	>0.9sec
62 mph (100 km/h)	Normal	Yellow	56–82 ft (17–25 m)	0.6sec - 0.9sec
62 mph (100 km/h)	Normal	Red	<56 ft (17 m)	<0.6sec

### Adjusting Pre-Collision Assist Settings

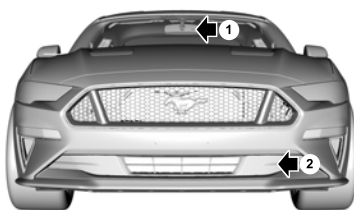
Adjust the alert and distance alert sensitivity to one of three possible settings by using the information display control. See **Information Displays** (page 99).

You can switch the distance alert and indication function off using the information display controls. See **Information Displays** (page 99).

You can switch active braking off using the information display controls. See **Information Displays** (page 99).

**Note:** *Active braking turns on every time you switch your vehicle on.*

### Blocked Sensors



- 1 Camera.
- 2 Radar sensor.

If a message regarding a blocked sensor or camera appears in the information display, the radar signals or camera images are detecting an obstruction. If your vehicle has a radar sensor, it is behind the fascia cover in the center of the lower grille. With a blocked sensor or camera, the pre-collision assist system may not operate, or performance may reduce. The following table lists possible causes and actions for when this message displays.

# Driving Aids

## Camera Troubleshooting

Cause	Action
The windshield in front of the camera is dirty or the sensor is detecting an obstruction.	Clean the outside of the windshield in front of the camera.
The windshield in front of the camera is clean but the message remains in the display screen.	Wait a short time. It could take several minutes for the camera to detect that there is no obstruction.

## Radar Troubleshooting

Cause	Action
The surface of the radar in the grille is dirty or the sensor is detecting an obstruction.	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 display screen.	Wait a short time. It could take several minutes for the radar to detect that there is no obstruction.
Heavy rain, spray, snow or fog is interfering with the radar signals.	The pre-collision assist system temporarily turns off. Pre-collision assist reactivates a short time after the weather conditions improve.
Swirling water or snow or ice on the surface of the road may interfere with the radar signals.	The pre-collision assist system temporarily turns off. Pre-collision assist reactivates a short time after the weather conditions improve.
Radar is out of alignment due to a front-end impact.	Contact an authorized dealer to check the radar for proper coverage and operation.

**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, the radar sensing zone may change. This could cause missed or false vehicle detections. Contact an authorized dealer to check the radar for proper coverage and operation.

**Note:** If your vehicle detects excessive heat at the camera or a potential misalignment condition, a message may 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 successfully recalibrates.



# Driving Aids

## DRIVE CONTROL - MACH 1 (IF EQUIPPED)

### Selectable Drive Modes

Selectable drive modes deliver a customized driving experience using a variety of electronic vehicle systems. The systems optimize vehicle dynamics and powertrain response based on your selected mode. Systems associated with selectable drive modes are:

- Electronically power assisted steering. See **Steering** (page 201).
- Electronic stability control and traction control maintain your vehicle control in adverse conditions or high performance driving. See **Stability Control** (page 175).
- Electronic throttle control enhances the powertrain response to your driving input.
- Adaptive dampers, if your vehicle comes with them.
- Active exhaust, if provided on your vehicle, adjusts the sound characteristics of your vehicle.

### Using Selectable Drive Modes



To change the drive mode setting, press the mode button on the instrument panel under the display. The first press illuminates the selected mode, subsequent presses change the selected mode.

**Note:** *Mode changes are not available when the ignition is off or when the transmission is in reverse (R). Some modes may be unavailable when the transmission is in drive (D) or sport (S).*

**Note:** *Your vehicle may have some of the drive modes that follow.*

Modes:

- Normal – Best suited for everyday driving. If your vehicle has adaptive dampers, the suspension delivers a balanced combination of comfort and handling. Selectable steering defaults to normal but can be changed using the steering button.
- Sport – Engages when you shift your automatic transmission into sport (S). Sport mode increases throttle response and helps your vehicle accelerate faster, but does not change the vehicle dynamics or stability system. The automatic transmission holds lower gears and a higher RPM when lifting off the accelerator. The automatic transmission downshifts to a higher RPM when braking aggressively.
- Sport+ – Best suited for spirited driving. This mode increases throttle response, and if your vehicle has active exhaust, it takes on a more powerful tone. If your vehicle has adaptive dampers, the suspension becomes stiffer, body motion reduces and the steering becomes more precise. Selectable steering defaults to sport. Depending on your vehicle configuration, you may be able to change the selectable steering setting by pressing the steering

# Driving Aids

button. The automatic transmission holds lower gears and a higher RPM when lifting off the accelerator. The automatic transmission downshifts to a higher RPM when braking aggressively.

- **Track** – Provides a performance driving experience. Throttle response increases, and if your vehicle has active exhaust, it takes on a more powerful tone. A performance oriented traction control mode is automatically utilized. In this mode, traction control intervention is reduced and tuned specifically for track usage only. This mode is not intended for public roads. See **Using Stability Control** (page 176). If your vehicle has adaptive dampers, the suspension is optimized for transient handling maneuvers. This mode offers maximum control and confidence in handling on road courses or auto-cross style events. Selectable steering defaults to sport. Depending on your vehicle configuration, you could change the selectable steering setting by pressing the steering button. The automatic transmission holds lower gears and a higher RPM and downshifts more aggressively under braking than in sport mode.

- **Drag Strip** – Provides a performance driving experience tailored to driving on a drag strip. The engine responds directly to your inputs, and if your vehicle has active exhaust, it takes on a more powerful tone. This mode is not intended for public roads. If your vehicle has adaptive dampers, the setting is optimized for straight line maximum acceleration. Selectable steering defaults to sport. Depending on your vehicle configuration, you could change the selectable steering setting by pressing the steering button. The automatic transmission is calibrated to shift very aggressively to provide a performance kick when driven at maximum throttle.
- **Snow/Wet** – Provides a confident handling driving experience during poor weather. If your vehicle has adaptive dampers, the suspension delivers a balanced combination of comfort and handling. Selectable steering defaults to normal. Depending on your vehicle configuration, you could change the selectable steering setting by pressing the steering button.

## Using MyMode (If Equipped)



You can use MyMode to create a unique drive mode.

# Driving Aids

To create or save MyMode, press the button on the steering wheel and access the menu. See **General Information** (page 99). The available systems display. Choose your desired settings using the appropriate buttons and menus. Press and hold OK to save your settings. MyMode is added to the drive mode list and can be selected the next time you drive your vehicle.

**Note:** *The system has diagnostic checks that continuously monitor the system to make sure it properly operates. If a mode is unavailable due to a system fault or change in gear position, the selected mode defaults to normal.*

**Note:** *Pre-Collision Assist is automatically disabled when track mode is selected. See **Pre-Collision Assist** (page 202).*

**Note:** *If your vehicle has adaptive dampers, the steering setting is optimized to work with each drive mode. Other steering settings may not be available.*

## Selectable Steering



Press the steering button on the instrument panel to change the steering feel. The first press illuminates the selected mode. Each time you press the button, it changes the mode.

Modes:

- Normal - Default factory setting.
- Sport - Slightly higher effort required for steering with more road force felt through the steering wheel.
- Comfort - Slightly less effort required for steering with less road force felt through the steering wheel.

**Note:** *A soft feedback bump in the steering wheel may be felt after you make a selection.*

**Note:** *The steering setting defaults to normal if the battery is disconnected or removed.*

## Active Exhaust (If Equipped)



Use the information display to adjust the tone of the exhaust.

Active Exhaust modes:

- Quiet - Lowers the noise of the exhaust.
- Normal - Default factory setting.
- Sport - Raises the noise of the exhaust.
- Track - Tunes the exhaust for track performance.

**Note:** *The track exhaust mode setting is only for use at tracks and not for use on public roadways. Use of this setting results in increased exterior noise, which may not meet state and local laws and regulations. It is the obligation of the driver to operate the vehicle in a manner that complies with state and local requirements. Only use the track exhaust mode setting at a competition track or an off-road course where elevated exterior vehicle noise is acceptable.*

## Rev Match (If Equipped)

This feature provides a smoother driving experience, particularly during a downshift event. This is accomplished by a shift position prediction that commands a quick engine RPM match to the selected gear. You can switch this feature on and off through the information display. See **General Information** (page 99).

**Note:** *The system remembers your last selection through ignition cycles.*

**Note:** *Rev match is only available with a manual transmission.*

# Driving Aids

## No Lift Shift

This feature provides you with the ability to keep the accelerator pedal firmly pressed down during high engine speed, wide open throttle accelerations. During wide open throttle gear shifts, the engine controller prevents the engine speed from flaring with the clutch disengaged during a rapid upshift. This allows reduced manual transmission upshift time, resulting in quicker acceleration and smoother no lift shifts.

## DRIVE CONTROL (IF EQUIPPED)

### Selectable Drive Modes (if Equipped)

Selectable drive modes deliver a customized driving experience using a variety of electronic vehicle systems. The systems optimize vehicle dynamics and powertrain response based on your selected mode. Systems associated with selectable drive modes are:

- Electronically power assisted steering. See **Steering** (page 201).
- Electronic stability control and traction control maintain your vehicle control in adverse conditions or high performance driving. See **Stability Control** (page 175).
- Electronic throttle control enhances the powertrain response to your driving input.
- Adaptive dampers (if equipped).
- Active exhaust adjusts the sound characteristics of your vehicle (if equipped).

### Using Selectable Drive Modes

**Note:** Your vehicle may have some of the drive modes that follow.



To change the drive mode setting, press the mode button on the instrument panel under the display. The first press illuminates the selected mode, subsequent presses change the selected mode.

**Note:** Mode changes are not available when the ignition is off or when the transmission is in reverse (R). Some modes may be unavailable when the transmission is in drive (D) or sport (S).

Modes:

- Normal – Best suited for everyday driving. If your vehicle has adaptive dampers, the suspension delivers a balanced combination of comfort and handling. Selectable steering defaults to normal but can be changed using the steering button.
- Sport – Engages when you shift your automatic transmission into sport (S). Sport mode increases throttle response and helps your vehicle accelerate faster, but does not change the vehicle dynamics or stability system.
- Sport+ – Best suited for spirited driving. This mode increases throttle response, and if your vehicle has active exhaust, it takes on a more powerful tone. If your vehicle has adaptive dampers, the suspension becomes stiffer, body

# Driving Aids

motion reduces and the steering becomes more precise. Selectable steering defaults to sport. Depending on vehicle configuration, you may be able to change the selectable steering setting by pressing the steering button.

- Track – Provides a performance driving experience. Throttle response increases, and if your vehicle has active exhaust, it takes on a more powerful tone. A performance oriented traction control mode is automatically utilized. In this mode, traction control intervention is reduced and tuned specifically for track usage only. This mode is not intended for public roads. See **Using Stability Control** (page 176). If your vehicle is equipped with adaptive dampers, the suspension is optimized for transient handling maneuvers. This mode offers maximum control and confidence in handling on road courses or auto-cross style events. Selectable steering defaults to sport. Depending on vehicle configuration, you could change the selectable steering setting by pressing the steering button.

- Drag Strip - Provides a performance driving experience tailored to driving on a drag strip. The engine responds directly to your inputs, and if your vehicle has active exhaust, it takes on a more powerful tone. This mode is not intended for public roads. If your vehicle has adaptive dampers, the setting is optimized for straight line maximum acceleration. Selectable steering defaults to sport. Depending on vehicle configuration, you could change the selectable steering setting by pressing the steering button.
- Snow/Wet - Provides a confident handling driving experience during poor weather. If your vehicle has adaptive dampers, the suspension delivers a balanced combination of comfort and handling. Selectable steering defaults to normal. Depending on vehicle configuration, you could change the selectable steering setting by pressing the steering button.

## Using MyMode (If Equipped)



You can use MyMode to create a unique drive mode.

# Driving Aids

To create or save MyMode, press the button on the steering wheel and access the menu. See **General Information** (page 99). The available systems display. Select your desired settings using the appropriate buttons and menus. Press and hold OK to save your settings. MyMode is added to the drive mode list and can be selected the next time you drive your vehicle.

**Note:** *The system has diagnostic checks that continuously monitor the system to make sure it properly operates. If a mode is unavailable due to a system fault or change in gear position, the selected mode defaults to normal.*

**Note:** *Pre-Collision Assist is automatically disabled when track mode is selected. See **Pre-Collision Assist** (page 202).*

**Note:** *If your vehicle has adaptive dampers, the steering setting is optimized to work with each drive mode. Other steering settings may not be available.*

## Selectable Steering

**Note:** *The steering setting defaults to normal if the battery is disconnected or removed.*



Press the steering button on the instrument panel to change the steering feel. The first press illuminates the selected mode. Each time you press the button, it changes the mode.

Modes:

- Normal - Default factory setting.
- Sport - Slightly higher effort required for steering with more road force felt through the steering wheel.
- Comfort - Slightly less effort required for steering with less road force felt through the steering wheel.

**Note:** *A soft feedback bump in the steering wheel may be felt after you make a selection.*

## Adaptive Dampers (If Equipped)



Press the button on the steering wheel to adjust the suspension. The first press illuminates the current mode. Each time you press the button, it changes the mode.

Adaptive damper modes:

- Normal — Available in normal and sport drive modes.
- Sport — Available in normal, sport and track drive modes.
- Track — Available only in track drive mode.
- Drag Strip — Available only in drag strip drive mode.

## Active Exhaust (If Equipped)



Press the button on the instrument panel under the display to adjust the tone of the exhaust.

Active Exhaust modes:

- Quiet - Lowers the noise of the exhaust.
- Normal - Default factory setting.
- Sport - Raises the noise of the exhaust.
- Track - Tunes the exhaust for track performance.

**Note:** *The track exhaust mode setting is only for use at tracks and not for use on public roadways. Use of this setting results in increased exterior noise, which may not meet state and local laws and regulations. It is the obligation of the driver to operate the vehicle in a manner that complies with state and local requirements. Only use the track exhaust mode setting at a competition track or an off-road course where elevated exterior vehicle noise is acceptable.*

# Driving Aids

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## **Rev Match** (If Equipped)

This feature provides a smoother driving experience, particularly during a downshift event. This is accomplished by a shift position prediction that commands a quick engine RPM match to the selected gear. You can switch this feature on and off through the information display. See **General Information** (page 99).

**Note:** *The system remembers your last selection through ignition cycles.*

# Load Carrying

## LOAD LIMIT

### Vehicle Loading - with and without a Trailer

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

### Tire and Loading Label Information Example:



#### TIRE AND LOADING INFORMATION

SEATING CAPACITY TOTAL: 5 FRONT: 2 REAR: 3

The combined weight of occupants and cargo should never exceed: **385 kg or 850 lbs.**

TIRE	SIZE	COLD TIRE PRESSURE	SEE OWNERS MANUAL FOR ADDITIONAL INFORMATION
FRONT	235/45R18 94V	235 KPA, 34 PSI	
REAR	235/45R18 94V	235 KPA, 34 PSI	
SPARE	NONE	NONE	



#### TIRE AND LOADING INFORMATION RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

SEATING CAPACITY / NOMBRE DE PLACES TOTAL: 5 FRONT: 2 REAR: 3

The combined weight of occupants and cargo should never exceed 396 kg or 875 lbs. / Le poids total des occupants et du chargement ne doit jamais dépasser 396 kg ou 875 lbs.

TIRE / PNEU	SIZE / DIMENSIONS	COLD TIRE PRESSURE / PRESSION DES PNEUS À FROID	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS
FRONT / AVANT	235/40R19 96V	255 KPA, 37 PSI	
REAR / ARRIÈRE	235/40R19 96V	255 KPA, 37 PSI	
SPARE / DE SECOURS	T125/80R16 97M	415 KPA, 60 PSI	

## Payload

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



# Load Carrying

is the maximum payload for your vehicle as built by the assembly plant. If you install any additional equipment on your vehicle, you must determine the new payload. Subtract the weight of the equipment from the payload listed on the Tire and Loading label. When towing, trailer tongue weight or king pin weight is also part of payload.

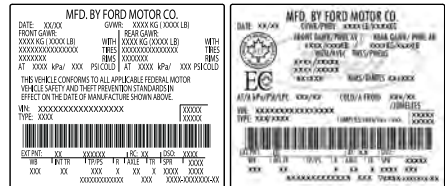
The total load on each axle must never exceed its Gross Axle Weight Rating.

## GVWR - Gross Vehicle Weight Rating

GVWR is the maximum allowable weight of the fully loaded vehicle. This includes all options, equipment, passengers and cargo. It appears on the Safety Compliance Certification label. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

The gross vehicle weight must never exceed the Gross Vehicle Weight Rating.

## Safety Compliance Certification Label Example:



## GAWR - Gross Axle Weight Rating

GAWR is the maximum allowable weight that a single axle (front or rear) can carry. These numbers are on the Safety Compliance Certification label. The label is located on the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver seating position.

# Load Carrying



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

## Maximum Loaded Trailer Weight

Maximum loaded trailer weight is the highest possible weight of a fully loaded trailer the vehicle can tow. Consult an authorized dealer (or the RV and Trailer Towing Guide available at an authorized dealer) for more detailed information.

## GCWR - Gross Combined Weight Rating

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

be used for safe control of towed vehicles and for trailers where the Gross Combined Weight of the towing vehicle plus the trailer exceed the Gross Vehicle Weight Rating of the towing vehicle.

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

**Note:** For trailer towing information refer to the *RV and Trailer Towing Guide* available at an authorized dealer.



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



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



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

# Load Carrying

## Steps for determining the correct load limit:

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lb." on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that can be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lb.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the "XXX" amount equals 1,400 lb. and there can be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lb.  $(1400 - 750 (5 \times 150) = 650 \text{ lb.})$
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If you are towing a trailer, load from your trailer is transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

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

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You decide to go golfing. Is there enough load capacity to carry you, four of your friends and all the golf bags? You and four friends average 220 pounds (99 kilograms) each and the golf bags weigh approximately 30 pounds (13.5 kilograms) each. The calculation would be:  $1400 - (5 \times 220) - (5 \times 30) = 1400 - 1100 - 150 = 150$  pounds. Yes, you have enough load capacity in your vehicle to transport four friends and your golf bags. In metric units, the calculation would be:  $635 \text{ kilograms} - (5 \times 99 \text{ kilograms}) - (5 \times 13.5 \text{ kilograms}) = 635 - 495 - 67.5 = 72.5$  kilograms.

Suppose your vehicle has a 1400-pound (635-kilogram) cargo and luggage capacity. You and one of your friends decide to pick up cement from the local home improvement store to finish that patio you have been planning for the past two years. Measuring the inside of the vehicle with the rear seat folded down, you have room for twelve 100-pound (45-kilogram) bags of cement. Do you have enough load capacity to transport the cement to your home? If you and your friend each weigh 220 pounds (99 kilograms), the calculation would be:  $1400 - (2 \times 220) - (12 \times 100) = 1400 - 440$

# Load Carrying

- 1200 = - 240 pounds. No, you do not have enough cargo capacity to carry that much weight. In metric units, the calculation would be:  $635 \text{ kilograms} - (2 \times 99 \text{ kilograms}) - (12 \times 45 \text{ kilograms}) = 635 - 198 - 540 = -103 \text{ kilograms}$ . You need to reduce the load weight by at least 240 pounds (104 kilograms). If you remove three 100-pound (45-kilogram) cement bags, then the load calculation would be:  $1400 - (2 \times 220) - (9 \times 100) = 1400 - 440 - 900 = 60 \text{ pounds}$ . Now you have the load capacity to transport the cement and your friend home. In metric units, the calculation would be:  $635 \text{ kilograms} - (2 \times 99 \text{ kilograms}) - (9 \times 45 \text{ kilograms}) = 635 - 198 - 405 = 32 \text{ kilograms}$ .

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

## Special Loading Instructions - for all vehicles



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

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

# Towing

## TOWING A TRAILER - MACH 1



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

## TOWING A TRAILER



**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.

**Note:** *There may be electrical items such as fuses or relays that can affect trailer towing operation. See **Fuses** (page 245).*

The load capacity of your vehicle is designated by weight not volume. You may not necessarily be able to use all available space when loading your vehicle or trailer.

Towing a trailer places extra load on the engine, transmission, axle, brakes, tires, and suspension. Inspect these components before, during and after towing.

### Load Placement

To help minimize how trailer movement affects the vehicle when driving:

- Load the heaviest items closest to the trailer floor.
- Load the heaviest items in the center of the left and right side trailer tires.
- Load the heaviest items above the trailer axles or just slightly forward toward the trailer tongue. Do not allow the final trailer tongue weight to go above or below 10-15% of the loaded trailer weight.
- Select a ball mount with the correct rise or drop. When both the loaded vehicle and trailer are connected, the trailer frame should be level, or slightly angled down toward the vehicle, when viewed from the side.

When driving with a trailer or payload, a slight takeoff vibration or shudder may be present due to the increased payload weight. Additional information regarding proper trailer loading and setting your vehicle up for towing is located in the Load Carrying chapter. See **Load Limit** (page 213).

# Towing

You can also find information in the **RV & Trailer Towing Guide**

available at your authorized dealer, or online.

## RV & Trailer Towing Guide Online

Website | <http://www.fleet.ford.com/towing-guides/>

### RECOMMENDED TOWING WEIGHTS

**Note:** Do not exceed the trailer weight for your vehicle configuration listed in the chart below.

**Note:** Be sure to take into consideration trailer frontal area. Do not exceed 12 feet<sup>2</sup> (1.11 meters<sup>2</sup>).

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

**Note:** Certain states require separate trailer brakes for trailers over a specified weight. Be sure to check state regulations for this specified weight. The maximum trailer weights listed may be limited to this specified weight, as the vehicle's electrical system may not include the wiring connector needed to activate electric trailer brakes.

Your vehicle may tow a trailer provided the maximum trailer weight is less than or equal to the maximum trailer weight listed for your vehicle configuration on the following chart.

Powertrain	Maximum Trailer Weight
2.3L GTDI	1,000 lb (454 kg)
5.0L TiVCT	1,000 lb (454 kg)

# Towing

## ESSENTIAL TOWING CHECKS

Follow these guidelines for safe towing:

- Do not tow a trailer until you drive your vehicle at least 1,000 mi (1,600 km).
- Consult your local motor vehicle laws for towing a trailer.
- See the instructions included with towing accessories for the proper installation and adjustment specifications.
- Service your vehicle more frequently if you tow a trailer. See your scheduled maintenance information.
- If you use a rental trailer, follow the instructions the rental agency gives you.

You can find information on load specification terms found on the tire label and Safety Compliance label as well as instructions on calculating your vehicle's load in the Load Carrying chapter. See **Load Limit** (page 213).

Remember to account for the trailer tongue weight as part of your vehicle load when calculating the total vehicle weight.

### Hitches

Do not use a hitch that either clamps onto the bumper or attaches to the axle.

Distribute the trailer load so 10-15% of the total trailer weight is on the tongue.

### Safety Chains

**Note:** *Never attach safety chains to the bumper.*

Always connect the safety chains to the hook retainers of your vehicle hitch.

To connect the safety chains, cross them under the trailer tongue and allow enough slack for turning tight corners. Do not allow the chains to drag on the ground.

## Trailer Brakes



**WARNING:** Do not connect a trailer's hydraulic brake system directly to your vehicle's brake system. Your vehicle may not have enough braking power and your chances of having a collision greatly increase.

Electric brakes and manual, automatic or surge-type trailer brakes are safe if you install them properly and adjust them to the manufacturer's specifications. The trailer brakes must meet local and federal regulations.

**The rating for the tow vehicle's braking system operation is at the gross vehicle weight rating, not the gross combined weight rating.**

## Trailer Lamps



**WARNING:** Never connect any trailer lamp wiring to the vehicle's tail lamp wiring; this may damage the electrical system resulting in fire. Contact your authorized dealer as soon as possible for assistance in proper trailer tow wiring installation. Additional electrical equipment may be required.

Trailer lamps are required on most towed vehicles. Make sure all running lights, brake lights, direction indicators and hazard lights are working.

## Before Towing a Trailer

Practice turning, stopping and backing up to get the feel of your vehicle-trailer combination before starting on a trip. When turning, make wider turns so the trailer wheels clear curbs and other obstacles.

# Towing

## When Towing a Trailer

- Do not drive faster than 70 mph (113 km/h) during the first 500 mi (800 km).
- Do not make full-throttle starts.
- Check your hitch, electrical connections and trailer wheel lug nuts thoroughly after you have traveled 50 mi (80 km).
- When stopped in congested or heavy traffic during hot weather, place the transmission in park (P) or neutral (N) to aid engine and transmission cooling and to help air conditioning performance.
- Switch off the speed control with heavy loads or in hilly terrain. The speed control may turn off automatically when you are towing on long, steep grades.
- Shift to a lower gear when driving down a long or steep hill. Do not apply the brakes continuously, as they may overheat and become less effective.
- If your transmission is equipped with a Grade Assist or Tow/Haul feature, use this feature when towing. This provides engine braking and helps eliminate excessive transmission shifting for optimum fuel economy and transmission cooling.
- Allow more distance for stopping with a trailer attached. Anticipate stops and brake gradually.
- Avoid parking on a slope. However, if you must park on a slope:
  1. Turn the steering wheel to point your vehicle tires away from traffic flow.
  2. Set your vehicle parking brake.
  3. Place the automatic transmission in park (P) or manual transmission in a low gear.

4. Place wheel chocks in front and back of the trailer wheels. Chocks are not included with your vehicle.

## Launching or Retrieving a Boat or Personal Watercraft (PWC)

**Note:** *Disconnect the wiring to the trailer before backing the trailer into the water.*

**Note:** *Reconnect the wiring to the trailer after removing the trailer from the water.*

When backing down a ramp during boat launching or retrieval:

- Do not allow the static water level to rise above the bottom edge of the rear bumper.
- Do not allow waves to break higher than 6 in (15 cm) above the bottom edge of the rear bumper.

Exceeding these limits may allow water to enter vehicle components:

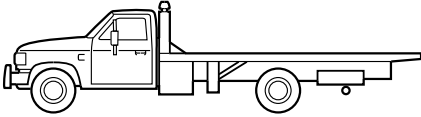
- Causing internal damage to the components.
- Affecting driveability, emissions, and reliability.

Any time the rear axle submerges in water, replace the rear axle lubricant. Water may contaminate the rear axle lubricant, which is not a normal maintenance inspection item unless there is a possibility of a leak or other axle repair is required.



# Towing

## TRANSPORTING THE VEHICLE - MACH 1



If you need to have your vehicle towed, contact your roadside assistance center or a professional towing service.

We recommend that your vehicle be towed with flatbed equipment only. When towing with a flatbed, race ramps or wood ramps must be used when loading or unloading your vehicle. Wheel baskets are required when flatbed towing.

Your vehicle comes with a front recovery hook to assist in vehicle recovery situations. See **Transporting the Vehicle** (page 237).

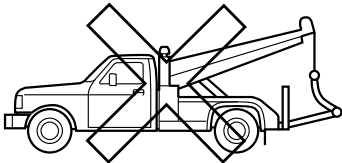
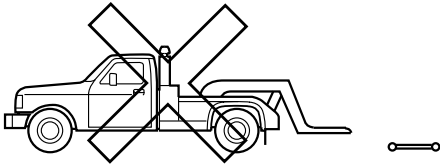
Perform the following when towing your vehicle:

- Enable manual park override. See **Automatic Transmission** (page 165).

**Note:** Do not use the Stay in Neutral Mode for towing.

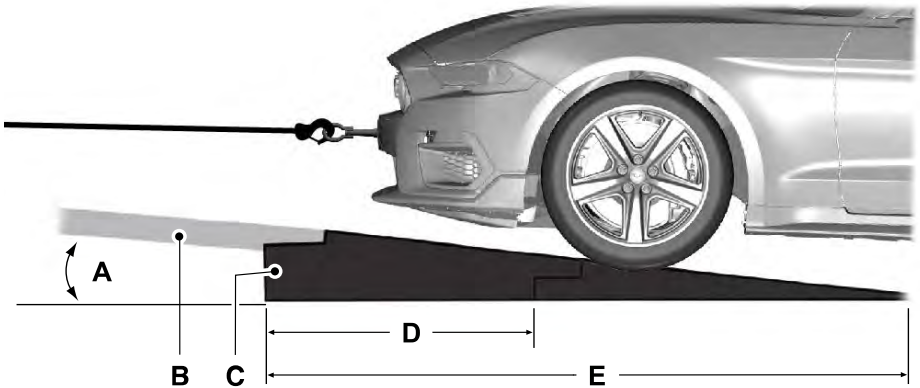
**Note:** Do not tow with a slingbelt or wheel lift equipment.

**Note:** If the vehicle is towed incorrectly or by any other means, vehicle damage may occur.



# Towing

## Preferred Flatbed Method



- A Seven degrees maximum.
- B Tow vehicle ramp.
- C Race ramps.
- D 30 inches (76 centimeters) minimum.
- E 70 inches (178 centimeters) minimum.

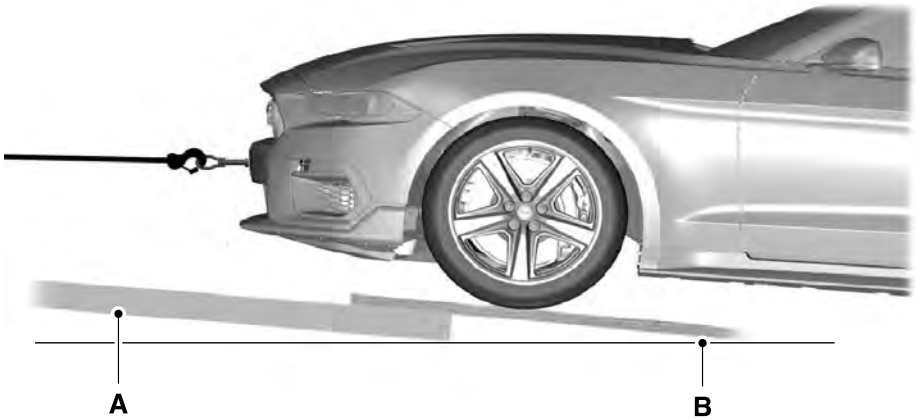
Use race ramps to load the vehicle.

The diagram illustrates the maximum ramp angle allowable to load your vehicle on a flatbed. Vehicle damage may occur with greater angles.

Ramps must be used to achieve appropriate undercarriage clearances.

# Towing

## Alternate Flatbed Method



- A Tow vehicle ramp.
- B Wooden ramp.

Use 2 in (5 cm) by 8 in (20 cm) by 8 ft (2.5 m) wooden ramps to load the vehicle.

The diagram illustrates the maximum ramp angle allowable to load your vehicle on a flatbed. Vehicle damage may occur with greater angles.

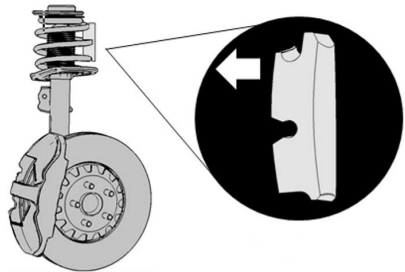
Blocks must be used to achieve appropriate undercarriage clearances.

### Transporting or Trailering - Mach 1 Handling Package (If Equipped)

Due to low ground clearance, your vehicle is transported from the assembly plant to the dealer with front suspension spacers installed. These are removed by the dealer prior to customer delivery and are provided with the vehicle. If you plan to transport or trailer your vehicle and need additional clearance, the spacers may be reinstalled for additional underbody clearance.

**Note:** *Suspension spacers must be removed before driving your vehicle. Failure to remove the spacers may cause damage to suspension components and degrade vehicle performance.*

**Note:** *It is only possible for you to install or remove the suspension spacers while the vehicle is raised in the air.*



# Towing

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## Front Suspension

Insert the top of the spring spacer onto the spring first, then snap the bottom of the spacer into place.

## TOWING THE VEHICLE ON FOUR WHEELS

### Emergency Towing



**WARNING:** If your vehicle has a steering wheel lock make sure the ignition is in the accessory or on position when being towed.

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

- Your vehicle is facing forward for towing in a forward direction.
- Place the transmission in neutral (N). If you cannot shift the transmission into neutral (N), you may need to override the gear shifter. See **Transmission** (page 164). Failing to do so may result in damage to the transmission.
- Maximum speed is 35 mph (56 km/h).
- Maximum distance is 50 mi (80 km).

### Recreational Towing

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

## 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:

1. 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.
2. 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.



E174571

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.



E174568

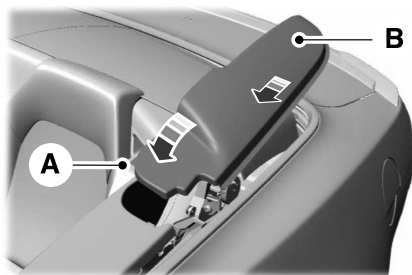
**Note:** *Do not store articles behind the rear seat. Articles in the convertible top stowage compartment may break the rear glass window when you open the top.*

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

## Convertible Top (If Equipped)

### Using the Tonneau Caps

Your convertible top also includes two tonneau caps, one for each side of the vehicle. These caps stow inside the trunk.



E205441

- A. Leading edge.
- B. Side edge.

After opening your convertible top, place the tonneau caps between the top and your vehicle trim moulding:

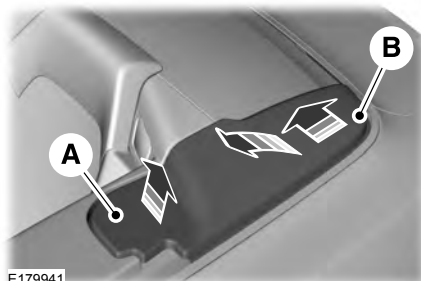
1. Insert tab A under the trim.
2. When tab A is under the trim slot, angle B down so the edges slide under the surrounding moulding and secure into place between the trim edges.
3. Repeat Steps 1 and 2 on the opposite side of the vehicle to install the second tonneau cap.

### CLOSING THE CONVERTIBLE TOP

Closing the convertible top is a three-step process: Remove both of the tonneau caps, press the convertible top control to close the top, and then close the latch.

To remove the tonneau caps:

1. Slide B toward the center of the vehicle to release the edges from the surrounding trim.
2. Lift up on B, and then pull the piece back to release tab A from the trim.
3. Repeat Steps 1 and 2 on the opposite side of the vehicle.
4. Make sure you stow both pieces in the trunk.



E179941

**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:** You must remove the tonneau caps before you are able to close the top or a chime sounds and a warning message appears in the instrument panel. Remove and stow the caps in the trunk, and then press the convertible top control again.

**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.

## Convertible Top (If Equipped)

To close the convertible top:

1. Bring the vehicle to a complete stop and make sure you switch the ignition on. We recommend that the vehicle remains running when you open the top to prevent draining the battery.
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 lower completely, 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.



E178453

**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.



E174568

The final step when closing the convertible top is to lock the latch.

To lock the latch on 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.

# Driving Hints

## REDUCED ENGINE PERFORMANCE



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

If the engine coolant temperature gauge needle moves to the upper limit position, the engine is overheating. See **Gauges** (page 90).

You must only drive your vehicle for a short distance if the engine overheats. The distance you can travel depends on ambient temperature, vehicle load and terrain. The engine continues to operate with limited power for a short period of time.

If the engine temperature continues to rise, the fuel supply to the engine reduces. The air conditioning switches off and the engine cooling fan operates continually.

1. Gradually reduce your speed and stop your vehicle as soon as it is safe to do so.
2. Immediately switch the engine off to prevent severe engine damage.
3. Wait for the engine to cool down.
4. Check the coolant level. See **Engine Coolant Check** (page 264).
5. Have your vehicle checked as soon as possible.

## Reduced Vehicle Top Speed

Your vehicle's ability to reach and maintain top speed is partially dependent upon ambient temperature. Under certain environmental conditions, your vehicle's top speed may be reduced to protect powertrain components.

## ECONOMICAL DRIVING

Fuel economy is affected by several things such as how you drive, the conditions you drive under and how you maintain your vehicle.

There are some things to keep in mind that may improve your fuel economy:

- Accelerate and slow down in a smooth, moderate fashion.
- Drive at steady speeds.
- Anticipate stops; slowing down may eliminate the need to stop.
- Combine errands and minimize stop-and-go driving (When running errands, go to the furthest destination first and then work your way back home).
- Close the windows for high-speed driving.
- Drive at reasonable speeds.
- Keep the tires properly inflated and use only the recommended size.
- Use the recommended engine oil.
- Perform all regularly scheduled maintenance.

There are also some things you may want to avoid doing because they reduce your fuel economy:

- Avoid sudden or hard accelerations.
- Avoid revving the engine before turning off the car.
- Avoid long idle periods.



# Driving Hints

- Do not warm up your vehicle on cold mornings.
- Reduce the use of air conditioning and heat.
- Avoid using speed control in hilly terrain.
- Do not rest your foot on the brake pedal while driving.
- Avoid carrying unnecessary weight.
- Avoid adding particular accessories to your vehicle (e.g. bug deflectors, rollbars/light bars, running boards, ski racks).
- Avoid driving with the wheels out of alignment.

## COLD WEATHER PRECAUTIONS

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

## BREAKING-IN

Your vehicle requires a break-in period. For the first 1,000 mi (1,600 km), avoid driving at high speeds, heavy braking, aggressive shifting or using your vehicle to tow. During this time, your vehicle may exhibit some unusual driving characteristics.

## Ground Clearance

Since ground clearance is reduced, use caution when approaching curbs or curb stops from the front and rear as vehicle damage may occur. Additionally, when crossing speed bumps or driveway curbs, you should approach at a 45 degree angle to reduce the risk of vehicle damage.

## DRIVING THROUGH WATER



**WARNING:** Do not drive through flowing or deep water as you may lose control of your vehicle.

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

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

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



When driving through standing water, drive very slowly and do not stop your vehicle. Your brake performance and traction may be limited. After driving through water and as soon as it is safe to do so:

- Lightly press the brake pedal to dry the brakes and to check that they work.
- Check that the horn works.
- Check that the exterior lights work.
- Turn the steering wheel to check that the steering power assist works.

# Driving Hints

## 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 Emergencies

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## ROADSIDE ASSISTANCE

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

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

The service is available:

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

Roadside Assistance covers:

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

- Towing — independent service contractors, if not prohibited by state, local or municipal law, shall tow Ford eligible vehicles to an authorized dealer within 35 mi (56 km) of the disablement location or to the nearest authorized dealer. If a member requests a tow to an authorized dealer that is more than 35 mi (56 km) from the disablement location, the member shall be responsible for any mileage costs in excess of 35 mi (56 km).
- Roadside Assistance includes up to \$200 for a towed trailer if the disabled eligible vehicle requires service at the nearest authorized dealer. If the towing vehicle is operational but the trailer is not, then the trailer does not qualify for any roadside services.

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

Complete the roadside assistance identification card and place it in your wallet for quick reference. This card is in the Owner's Manual kit.

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

If you need to arrange roadside assistance for yourself, Ford Motor Company reimburses a reasonable amount for towing to the nearest dealership within 35 mi (56 km). To obtain reimbursement information, United States vehicle customers call 1-800-241-3673. Customers need to submit their original receipts.

# Roadside Emergencies

## Vehicles Sold in Canada: Getting Roadside Assistance

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

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

This program is separate from the New Vehicle Limited Warranty, but the coverage is concurrent with the powertrain coverage period of your vehicle. Canadian roadside coverage and benefits may differ from the U.S. coverage.

If you require more information, please call us in Canada at 1-800-665-2006, or visit our website at [www.ford.ca](http://www.ford.ca).

## HAZARD FLASHERS


**Note:** *The hazard flashers operate when the ignition is in any position, or if the key is not in the ignition. If used when the vehicle is not running, the battery loses charge. As a result, there may be insufficient power to restart your vehicle.*



The flasher control is on the instrument panel. Use your hazard flashers when your vehicle is creating a safety hazard for other motorists.

- Press the flasher control and all front and rear direction indicators flash.
- Press the button again to switch them off.

## FUEL SHUTOFF

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

**Note:** *When you try to restart your vehicle after a fuel shutoff, the vehicle makes sure that various systems are safe to restart. Once the vehicle determines the systems are safe, then the vehicle allows you to restart.*

**Note:** *In the event that your vehicle does not restart after your third attempt, contact a qualified technician.*

The fuel pump shutoff stops the flow of fuel to the engine in the event of a moderate to severe crash. Not every impact causes a shutoff.

Should your vehicle shut off after a crash, you may restart your vehicle.

1. Press **START/STOP** to switch off your vehicle.
2. Press the brake pedal and **START/STOP** to switch on your vehicle.
3. Remove your foot from the brake pedal and press **START/STOP** to switch off your vehicle.
4. You can attempt to start the vehicle by pressing the brake pedal and **START/STOP**, or press **START/STOP** without pressing the brake pedal.
5. If the vehicle does not start, repeat steps 1 through 4.

# Roadside Emergencies

## JUMP STARTING THE VEHICLE



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



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



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

**Note:** Do not attempt to push-start your automatic transmission vehicle. Attempting to push-start a vehicle with an automatic transmission may cause transmission damage.

**Note:** Do not disconnect the battery of the disabled vehicle as this could damage the vehicle electrical system.

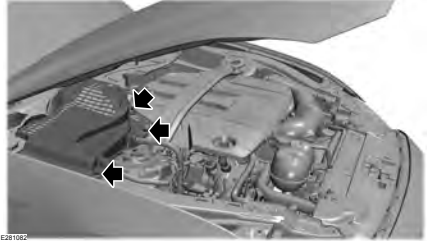
## Preparing Your Vehicle

**Note:** 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.

## Removing the Battery Shield

The battery is on the passenger side underneath the battery shield.



1. Rotate and release three fasteners by hand from the battery shield.
2. Remove the battery shield from the vehicle.

## Connecting the Jumper Cables



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

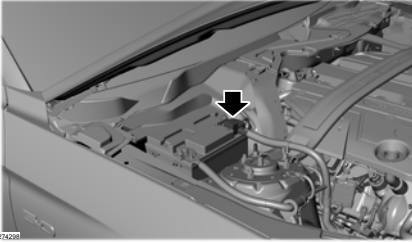


**WARNING:** Do not use fuel lines, engine valve covers, windshield wiper arms, the intake manifold, or hood latch as ground points.

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

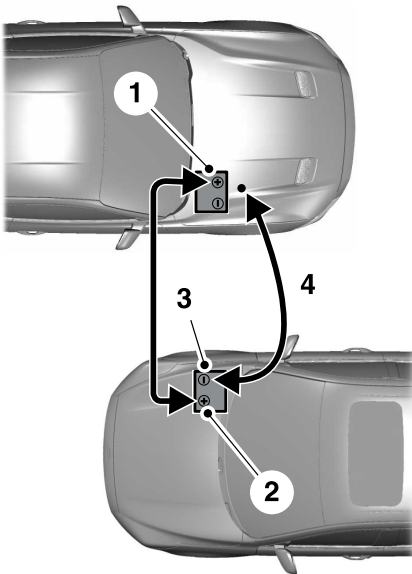
**Note:** In the illustration, the vehicle shown is being jumped.

# Roadside Emergencies



E224291

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



1. Pull the red rubber boot backwards. 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 an exposed metal part of the stalled vehicle's engine, as shown in the following illustration, away from the battery and the fuel injection system, or connect the negative (-) jumper cable to a ground connection point if available.



E204033

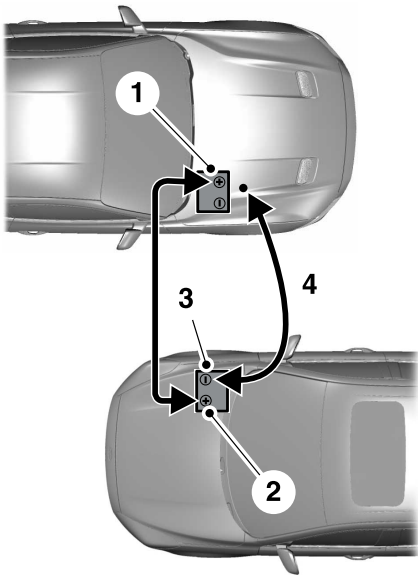
## Starting the Engine

1. Start the engine of the booster vehicle and moderately rev the engine, or gently press the accelerator to keep your engine speed between 2000 and 3000 RPM, as shown in your tachometer.
2. Start the engine of the disabled vehicle.
3. Once you start the disabled vehicle, run both vehicle engines for an additional three minutes before disconnecting the jumper cables.

## Removing the Jumper Cables

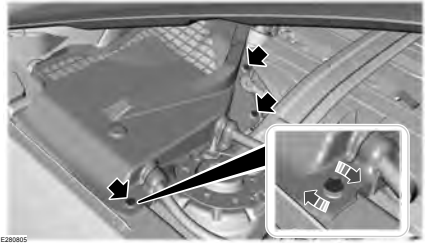
Remove the jumper cables in the reverse order that they were connected.

# Roadside Emergencies



1. Remove the negative (-) jumper cable from the disabled vehicle.
2. Remove the jumper cable on the negative (-) terminal of the booster vehicle battery.
3. Remove the jumper cable from the positive (+) terminal of the booster vehicle battery.
4. Remove the jumper cable from the positive (+) terminal of the disabled vehicle battery.
5. Allow the engine to idle for at least one minute.

## Installing the Battery Shield



1. Install the battery shield on the vehicle.
2. Install in reverse direction. Tighten three fasteners by hand.

## POST-CRASH ALERT SYSTEM

The system flashes the direction indicators and sounds the horn (intermittently) in the event of a serious impact that deploys an airbag (front, side, side curtain or Safety Canopy) or the seatbelt pretensioners.

The horn and indicators turn off when:

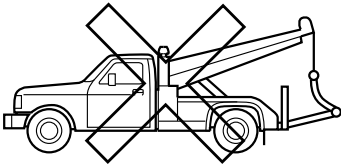
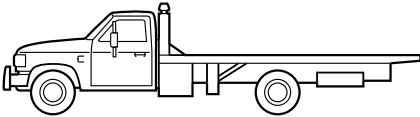
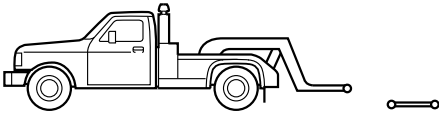
- You press the hazard control button.
- You press the panic button on the remote entry transmitter (if equipped).
- Your vehicle runs out of power.
- Sounding of the horn is only enabled in specific markets.

# Roadside Emergencies

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## TRANSPORTING THE VEHICLE

The front wheels must be on a tow dolly when towing your vehicle from the rear using wheel lift equipment. This prevents damage to the front fascia.



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

We recommend the use of a wheel lift and dollies or flatbed equipment to tow your vehicle. Do not tow with a slingbelt. We do not approve a slingbelt towing procedure. If you tow your vehicle incorrectly, or by any other means, vehicle damage may occur.

The rear wheels must be on a tow dolly when towing your vehicle from the front using wheel lift equipment. This prevents damage to the transmission.



# Customer Assistance

## GETTING THE SERVICES YOU NEED

Warranty repairs to your vehicle must be performed by an authorized dealer. While any authorized dealer handling your vehicle line will provide warranty service, we recommend you return to your selling authorized dealer who wants to ensure your continued satisfaction.

Please note that certain warranty repairs require special training and equipment, so not all authorized dealers are authorized to perform all warranty repairs. This means that, depending on the warranty repair needed, you may have to take your vehicle to another authorized dealer.

A reasonable time must be allowed to perform a repair after taking your vehicle to the authorized dealer. Repairs will be made using Ford or Motorcraft® parts, or remanufactured or other parts that are authorized by Ford.

### Away From Home

If you are away from home when your vehicle needs service, contact the Ford Customer Relationship Center or use the online resources listed below to find the nearest authorized dealer.

In the United States:

#### Mailing address

Ford Motor Company  
Customer Relationship Center  
P.O. Box 6248  
Dearborn, MI 48126

#### Telephone

1-800-392-3673 (FORD)  
(TDD for the hearing impaired:  
1-800-232-5952)

If your vehicle is configured as a motorhome please call 1-800-444-3311 for support.

Additional information and resources are available online:

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

These are some of the items that can be found online:

- U.S. dealer locator by Dealer Name, City/State or Zip Code.
- Owner Manuals.
- Maintenance Schedules.
- Recalls.
- Ford Extended Service Plans.
- Ford Genuine Accessories.
- Service specials and promotions.

In Canada:

#### Mailing address

Customer Relationship Centre  
Ford Motor Company of Canada, Limited  
P.O. Box 2000  
Oakville, Ontario L6K 0C8

#### Telephone

1-800-565-3673 (FORD)  
(TDD for the hearing impaired:  
1-888-658-6805)

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

#### Facebook

FordServiceCA (English)  
FordServiceQC (Français)

#### Twitter

@FordServiceCA

# Customer Assistance

## Additional Assistance

If you have questions or concerns, or are unsatisfied with the service you are receiving, follow these steps:

1. Contact your Sales Representative or Service Advisor at your selling or servicing authorized dealer.
2. If your inquiry or concern remains unresolved, contact the Sales Manager, Service Manager or Customer Relations Manager.
3. If you require assistance or clarification on Ford Motor Company policies, please contact the Ford Customer Relationship Center.

In order to help us serve you better, please have the following information available when contacting a Customer Relationship Center:

- Vehicle Identification Number.
- Your telephone number (home and business).
- The name of the authorized dealer and city where located.
- The vehicle's current odometer reading.

In some states within the United States, you must directly notify Ford in writing before pursuing remedies under your state's warranty laws, and Ford is also allowed a final repair attempt.

Additionally, in some states within the United States, a consumer has the option of submitting a warranty dispute to the BBB Auto Line before taking action under the Magnuson-Moss Warranty Act, or to the extent allowed by state law, before pursuing replacement or repurchase remedies provided by certain state laws. This dispute handling procedure is not required prior to enforcing state created rights or other rights which are independent of the Magnuson-Moss Warranty Act or state replacement or repurchase laws.

## IN CALIFORNIA (U.S. ONLY)

California Civil Code Section 1793.2(d) requires that, if a manufacturer or its representative is unable to repair a motor vehicle to conform to the vehicle's applicable express warranty after a reasonable number of attempts, the manufacturer shall be required to either replace the vehicle with one substantially identical or repurchase the vehicle and reimburse the buyer in an amount equal to the actual price paid or payable by the consumer (less a reasonable allowance for consumer use). The consumer has the right to choose whether to receive a refund or replacement vehicle.

California Civil Code Section 1793.22(b) presumes that the manufacturer has had a reasonable number of attempts to conform the vehicle to its applicable express warranties if, within the first 18 months of ownership of a new vehicle or the first 18,000 mi (29,000 km), whichever occurs first:

1. Two or more repair attempts are made on the same non-conformity likely to cause death or serious bodily injury OR
2. Four or more repair attempts are made on the same nonconformity (a defect or condition that substantially impairs the use, value or safety of the vehicle) OR
3. The vehicle is out of service for repair of nonconformities for a total of more than 30 calendar days (not necessarily all at one time).

In the case of 1 or 2 above, the consumer must also notify the manufacturer of the need for the repair of the nonconformity at the following address:

Ford Motor Company  
16800 Executive Plaza Drive  
Mail Drop 3NE-B  
Dearborn, MI 48126

# Customer Assistance

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You are required to submit your warranty dispute to BBB AUTO LINE before asserting in court any rights or remedies conferred by California Civil Code Section 1793.22(b). You are also required to use BBB AUTO LINE before exercising rights or seeking remedies created by the Federal Magnuson-Moss Warranty Act, 15 U.S.C. sec. 2301 et seq. If you choose to seek redress by pursuing rights and remedies not created by California Civil Code Section 1793.22(b) or the Magnuson-Moss Warranty Act, resort to BBB AUTO LINE is not required by those statutes.

## **THE BETTER BUSINESS BUREAU (BBB) AUTO LINE PROGRAM (U.S. ONLY)**

Your satisfaction is important to Ford Motor Company and to your dealer. If a warranty concern has not been resolved using the three-step procedure outlined earlier in this chapter in the Getting the Services you need section, you may be eligible to participate in the BBB AUTO LINE program.

The BBB AUTO LINE program consists of two parts – mediation and arbitration. During mediation, a representative of the BBB will contact both you and Ford Motor Company to explore options for settlement of the claim. If an agreement is not reached during mediation or you do not want to participate in mediation, and if your claim is eligible, you may participate in the arbitration process. An arbitration hearing will be scheduled so that you can present your case in an informal setting before an impartial person. The arbitrator considers the testimony provided and makes a decision after the hearing.

Disputes submitted to the BBB AUTO LINE program are usually decided within 40 days after you file your claim with the BBB. You are not bound by the decision, and may reject the decision and proceed to court where all findings of the BBB Auto Line dispute, and decision, are admissible in the court action. Should you choose to accept the BBB AUTO LINE decision, Ford is then bound by the decision, and must comply with the decision within 30 days of receipt of your acceptance letter.

**BBB AUTO LINE Application:** Using the information that follows, please call or write to request a program application. You will be asked for your name and address, general information about your new vehicle, information about your warranty concerns, and any steps you have already taken to try to resolve them. A Customer Claim Form will be mailed that needs to be completed, signed and returned to the BBB along with proof of ownership. Upon receipt, the BBB reviews the claim for eligibility under the Program Summary Guidelines.

**You can get more information by calling BBB AUTO LINE at 1-800-955-5100, or writing to:**

**BBB AUTO LINE a Division of BBB National Programs, Inc.  
1676 International Drive, Suite 550  
McLean, VA 22102**

BBB AUTO LINE applications can also be requested by calling the Ford Motor Company Customer Relationship Center at 1-800-392-3673.

For additional information, refer to the Better Business Bureau website.

**Note:** *Ford Motor Company reserves the right to change eligibility limitations, modify procedures, or to discontinue this process at any time without notice and without obligation.*

# Customer Assistance

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## UTILIZING THE MEDIATION/ARBITRATION PROGRAM (CANADA ONLY)

For vehicles delivered to authorized Canadian dealers. In those cases where you continue to feel that the efforts by Ford of Canada and the authorized dealer to resolve a factory-related vehicle service concern have been unsatisfactory, Ford of Canada participates in an impartial third party mediation/arbitration program administered by the Canadian Motor Vehicle Arbitration Plan (CAMVAP).

The CAMVAP program is a straight forward and relatively speedy alternative to resolve a disagreement when all other efforts to produce a settlement have failed. This procedure is without cost to you and is designed to eliminate the need for lengthy and expensive legal proceedings.

In the CAMVAP program, impartial third-party arbitrators conduct hearings at mutually convenient times and places in an informal environment. These impartial arbitrators review the positions of the parties, make decisions and, when appropriate, render awards to resolve disputes. CAMVAP decisions are fast, fair, and final as the arbitrator's award is binding on both you and Ford of Canada.

CAMVAP services are available in all Canadian territories and provinces. For more information, without charge or obligation, call your CAMVAP Provincial Administrator directly at 1-800-207-0685 or visit [www.camvap.ca](http://www.camvap.ca).

## GETTING ASSISTANCE OUTSIDE THE U.S. AND CANADA

Before exporting your vehicle to a foreign country, contact the appropriate foreign embassy or consulate. These officials can inform you of local vehicle registration regulations and where to find unleaded fuel or petrol/gas engines or the proper sulfur fuel for diesel engines.

If you cannot find the proper fuel recommended for your vehicle, contact our Customer Relationship Center.

The use of improper fuels in your vehicle without proper conversion may damage the effectiveness of your emission control system and may cause engine knocking or serious engine damage. Ford Motor Company or Ford of Canada is not responsible for any damage caused by use of improper fuel. Using improper fuels may also result in difficulty importing your vehicle back into the United States.

If your vehicle must be serviced while you are traveling or living in Asia-Pacific Region, Sub-Saharan Africa, U.S. Virgin Islands and/or Puerto Rico, Central America, the Caribbean, and Israel and the Middle East, contact the nearest authorized dealer. If the authorized dealer cannot help you, contact the corresponding Ford Customer Assistance Center:

**FORD MOTOR COMPANY**  
**Customer Relationship Centers in:**

## Customer Assistance

Customer Relationship Center	Phone	Fax	E-mail
Asia Pacific	N/A	N/A	apemrc@ford.com
Caribbean and Central America	+1-800-841-3673	N/A	atnclien@ford.com
Middle East	Ford 80004443673	971 4 3327 266	menacac@ford.com
	Lincoln 80004441067		
	UAE 80004441066		
	Saudi Arabia 8008443673		
	Mobily and Zain cell phone users in Saudi 800850078		
	Kuwait 22280384		
North Africa	N/A	N/A	nafcrc@ford.com
Puerto Rico and U.S. Virgin Islands	+1-800-841-3673	N/A	atnclien@ford.com
Sub-Saharan Africa	N/A	N/A	ssacrc@ford.com
South Korea	+82-02-1600-6003	N/A	infokr1@ford.com or infokr@lincoln.com

If you buy your vehicle in North America and then relocate to any of the above locations, register your vehicle identification number (VIN) and new address with Ford Global Trade Services by emailing, [expcso@ford.com](mailto:expcso@ford.com).

If you are in another foreign country, contact the nearest authorized dealer. In the event your inquiry is unresolved, communicate your concern with the dealership's Sales Manager, Service Manager or Customer Relations Manager. If you require additional assistance or clarification, please contact the respective Customer Relationship Center as previously listed.

**Customers in the U.S. should call 1-800-392-3673.**

# Customer Assistance

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## **ORDERING ADDITIONAL OWNER'S LITERATURE**

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

HELM, LLC  
47911 Halyard Drive, Suite 200  
Plymouth, Michigan 48170  
Attention: Customer Service

Or to order a free publication catalog, call toll free: 1-800-782-4356

Monday-Friday 8:00 a.m. - 6:00 p.m. EST

Helm, LLC can also be reached by their website:

[www.helminc.com](http://www.helminc.com)

(Items in this catalog may be purchased by credit card, check or money order.)

## **Obtaining a French Owner's Manual**

French Owner's Manual can be obtained from your authorized dealer or by contacting Helm, LLC using the contact information listed previously in this section.

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

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Ford Motor Company.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Ford Motor Company.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to [www.safercar.gov](http://www.safercar.gov); or write to:

Administrator

1200 New Jersey Avenue,  
Southeast

Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from [www.safercar.gov](http://www.safercar.gov).

## **REPORTING SAFETY DEFECTS (CANADA ONLY)**

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform Transport Canada and Ford of Canada.

# Customer Assistance

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<b>Transport Canada Contact Information</b>	
Website	<a href="http://www.tc.gc.ca/eng/motorvehiclesafety/reporting-defects-motor-vehicles.html">http://www.tc.gc.ca/eng/motorvehiclesafety/reporting-defects-motor-vehicles.html</a> (English)
Website	<a href="http://www.tc.gc.ca/fra/securiteautomobile/signaler-defauts-vehicules-automobiles.html">http://www.tc.gc.ca/fra/securiteautomobile/signaler-defauts-vehicules-automobiles.html</a> (French)
Phone	1-800-333-0510

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

# Fuses

## FUSE SPECIFICATION CHART

### Power Distribution Box



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

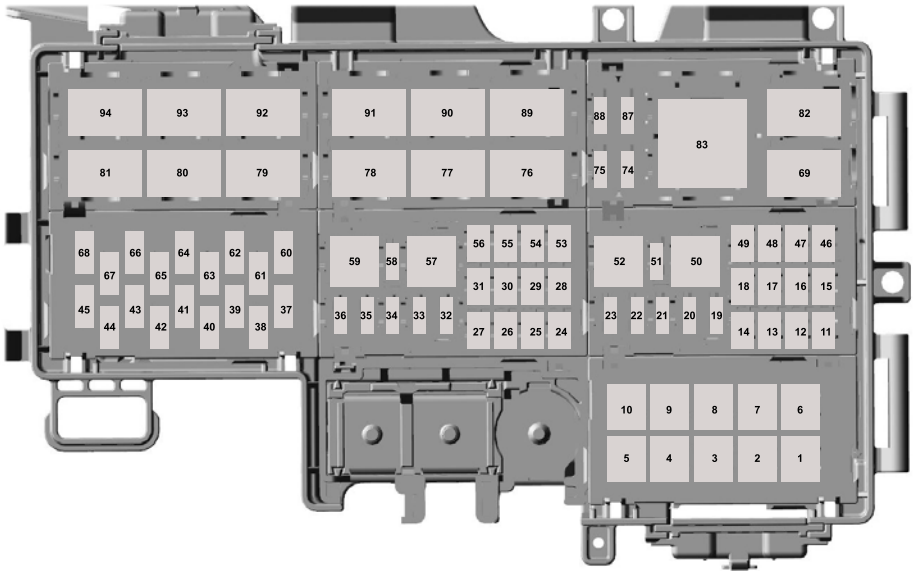


**WARNING:** To reduce risk of electrical shock, always replace the cover to the power distribution box before reconnecting the battery or refilling fluid reservoirs.

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

If you disconnect and reconnect the battery, you need to reset some features. See **Changing the 12V Battery** (page 270).

Replace fuses with the same type and rating. See **Changing a Fuse** (page 254).



E286912



# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
1	60A <sup>1</sup>	Electronic fan 1 (GT500).
	—	Not used (base).
2	—	Not used.
3	30A <sup>1</sup>	Electronic fan 1 (base).
	—	Not used (GT500).
4	40A <sup>1</sup>	Electronic fan 3 (base).
	—	Not used (GT500).
5	50A <sup>1</sup>	Automatic brake system pump.
6	50A <sup>1</sup>	Body control module.
7	60A <sup>1</sup>	Body control module.
8	50A <sup>1</sup>	Body control module.
9	40A <sup>1</sup>	Rear window defroster.
10	40A <sup>1</sup>	Blower motor.
11	30A <sup>2</sup>	Left-hand front window.
12	30A <sup>2</sup>	Driver seat.
13	30A <sup>2</sup>	Passenger seat.
14	30A <sup>2</sup>	Climate controlled seat module.
15	20A <sup>2</sup>	Convertible top slave motor (base).
	—	Not used (GT500).
16	15A <sup>2</sup>	Charge air cooler pump (GT500).
	—	Not used (base).

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
17	20A <sup>2</sup>	Convertible top master motor (base).
	—	Not used (GT500).
18	—	Not used.
19	20A <sup>3</sup>	Steering column lock relay (base).
	10A <sup>3</sup>	Transmission control unit (GT500).
20	10A <sup>3</sup>	Brake on-off switch.
21	20A <sup>3</sup>	Horn.
22	10A <sup>3</sup>	Powertrain control module relay.
23	10A <sup>3</sup>	Air conditioning clutch.
24	30A <sup>2</sup>	Voltage quality module.
25	20A <sup>2</sup>	Steering column lock relay (GT500).
	—	Not used (base).
26	25A <sup>2</sup>	Windshield wiper motor.
27	—	Not used.
28	30A <sup>2</sup>	Automatic brake system valve.
29	—	Not used.
30	30A <sup>2</sup>	Starter motor solenoid.
31	—	Not used.
32	10A <sup>3</sup>	Latch relay coil.
33	15A <sup>3</sup>	Run/start (base).
	20A <sup>3</sup>	Left-hand high-intensity discharge headlamps (GT500).
34	15A <sup>3</sup>	Exhaust valves.

## Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
35	20A <sup>3</sup>	Right-hand high-intensity discharge headlamps (GT500).
	—	Not used (base).
36	10A <sup>3</sup>	Alternator sense.
37	—	Not used.
38	20A <sup>3</sup>	Vehicle power 1.
39	—	Not used.
40	20A <sup>3</sup>	Vehicle power 2.
41	15A <sup>3</sup>	Fuel injectors.
42	15A <sup>3</sup>	Vehicle power 3.
43	—	Not used.
44	15A <sup>3</sup>	Vehicle power 4 (base).
	30A <sup>3</sup>	Vehicle power 4 (GT500).
45	—	Not used.
46	20A <sup>2</sup>	Differential pump (Mach 1, GT500).
	—	Not used (base).
47	—	Not used.
48	30A <sup>2</sup>	Fuel pump #2 (GT500).
	—	Not used (base).
49	30A <sup>2</sup>	Fuel pump.
50	—	Steering column lock relay.
51	—	Not used.
52	—	Horn relay.
53	20A <sup>2</sup>	Cigar lighter.

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
54	20A <sup>2</sup>	Auxiliary power point.
55	25A <sup>2</sup>	Electronic fan 2 (base).
	—	Not used (GT500).
56	—	Not used.
57	—	Air conditioning clutch relay.
58	—	Not used.
59	—	Exhaust valves relay.
60	5A <sup>3</sup>	Powertrain control module.
61	—	Not used.
62	5A <sup>3</sup>	Anti-lock brakes run/start switch.
63	—	Not used.
64	5A <sup>3</sup>	Electronic power assist steering.
65	—	Not used.
66	5A <sup>3</sup>	Blind spot information system. Rear view camera. Rear window defroster relay coils. Vehicle dynamics module.
67	—	Not used.
68	10A <sup>3</sup>	Headlamp leveling switch (base).
	10A <sup>3</sup>	Signature lighting (GT500).
69	—	Cigar lighter relay. Auxiliary power point relay.
74	5A <sup>3</sup>	Mass air flow sensor (base).
	—	Not used (GT500).
75	5A <sup>3</sup>	Rain sensor module (base).

## Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
	—	Not used (GT500).
76	—	Rear window defroster relay.
77	—	Electronic cooling fan 2 relay (base).
	—	Not used (GT500).
78	—	Run/start relay (base).
	—	Not used (GT500).
79	—	Charge air cooler pump relay (GT500).
	—	Not used (base).
80	—	Windshield wiper relay.
81	—	Starter motor solenoid relay.
82	—	Powertrain control module relay.
83	—	Cooling fan relay (GT500).
	—	Not used (base).
87	10A <sup>3</sup>	Heated exterior mirrors.
88	—	Not used.
89	—	Electronic fan 1 relay (base).
	—	Not used (GT500).
90	—	Differential pump relay (Mach 1, GT500).
	—	Not used (base).
91	—	Electronic fan 3 relay (base).
	—	Not used (GT500).
92	—	Blower motor relay.
93	—	Fuel pump #2 relay (GT500).

# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
	—	Not used (base).
94	—	Fuel pump relay.

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

<sup>2</sup> M-case fuses.

<sup>3</sup> Micro fuses.

**Note:** *Spare fuse amperage may vary.*

## Passenger Compartment Fuse Panel

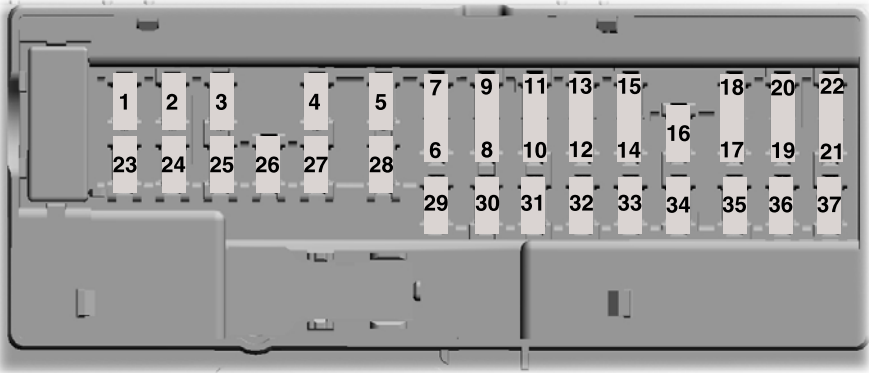
The fuse panel is in the right-hand side of the passenger footwell behind a trim panel and plastic key code card.

To remove the trim panel, lift it from the rear retaining hooks, while pulling it toward you and swinging it away from the side. To reinstall it, line up the tabs with the grooves on the panel, drop the panel back into place, and then push it shut.

To reach the fuse panel, first remove the key code card.

After replacing a fuse, return the key code card to the original position. To reinstall the trim panel, lineup the tabs with the grooves on the panel, drop the panel back into place, and then push it shut to reinstall the trim panel.

# Fuses



E174564

Fuse or Relay Number	Fuse Rating	Protected Component
1	—	Not used.
2	10A	Power windows. Electrochromic mirror. Power door locks.
3	7.5A	Power mirrors (base). Memory seats (base).
	—	Not used (GT500).
4	20A	Not used (spare).
5	—	Not used.
6	10A	Not used (spare).
7	10A	Not used (spare).

# Fuses

<b>Fuse or Relay Number</b>	<b>Fuse Rating</b>	<b>Protected Component</b>
8	5A	Telematic control unit - modem.
9	5A	Not used.
10	—	Not used.
11	—	Not used.
12	7.5A	Electronic control panel. Gateway module. Gear shift module (GT500).
13	7.5A	Steering column control module. Instrument cluster.
14	15A	Not used.
15	15A	SYNC. Gauges.
16	—	Not used.
17	7.5A	Headlamp leveling switch (base).
	—	Not used (GT500).
18	7.5A	Not used.
19	5A	Not used.
20	5A	Intrusion sensor module.
21	5A	In-vehicle temperature and humidity sensor.
22	5A	Auxiliary body module.
23	30A	Amplifier.
24	30A	Vehicle dynamics module.
25	20A	Ambient lighting module (base). Auxiliary body module.
26	30A	Right-hand front-window motor (power distribution module). Passenger door control unit.
27	30A	Left-hand rear-window power (base).
	—	Not used (GT500).



# Fuses

Fuse or Relay Number	Fuse Rating	Protected Component
28	30A	Right-hand rear-window power (base).
	—	Not used (GT500).
29	15A	Gateway module (base).
	—	Not used (spare) (GT500).
30	5A	Not used (spare)
31	10A	Remote keyless entry.
32	20A	Audio unit.
33	—	Not used.
34	30A	Run/start bus.
35	5A	Power distribution box run/start relay (base).
	—	Not used (GT500).
36	15A	Front camera (base).
	—	Not used (GT500).
37	20A	Heated steering wheel module (base).
	—	Not used (GT500).

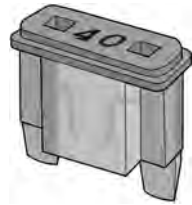
**Note:** Spare fuse amperage may vary.

## CHANGING A FUSE

### Fuses



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

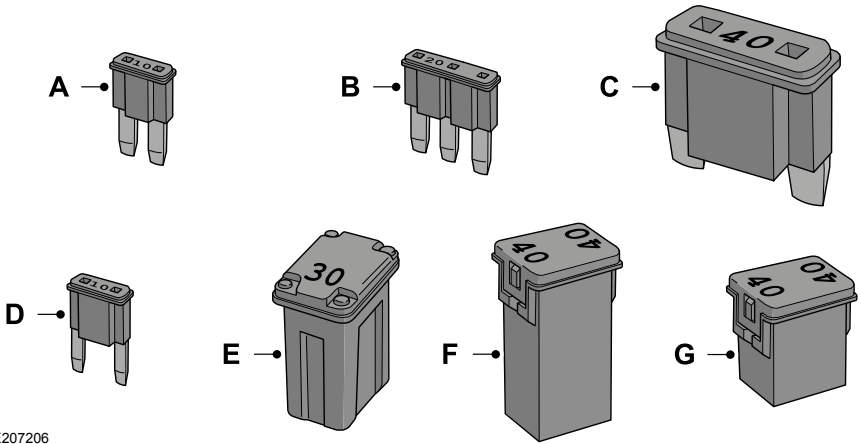


E217331

If electrical components in the vehicle are not working, a fuse may have blown. Blown fuses are identified by a broken wire within the fuse. Check the appropriate fuses before replacing any electrical components.

# Fuses

## Fuse Types



E207206

Callout	Fuse Type
A	Micro 2
B	Micro 3
C	Maxi
D	Mini
E	M Case
F	J Case
G	J Case Low Profile

# Maintenance

## GENERAL INFORMATION

Have your vehicle serviced regularly to help maintain its roadworthiness and resale value. There is a large network of authorized dealers that are there to help you with their professional servicing expertise. We believe that their specially trained technicians are best qualified to service your vehicle properly and expertly. They are supported by a wide range of highly specialized tools developed specifically for servicing your vehicle.

If your vehicle requires professional service, an authorized dealer can provide the necessary parts and service. Check your warranty information to find out which parts and services are covered.

Use only recommended fuels, lubricants, fluids and service parts conforming to specifications. Motorcraft® parts are designed and built to provide the best performance in your vehicle.

## Precautions

- Do not work on a hot engine.
- Make sure that nothing gets caught in moving parts.
- Do not work on a vehicle with the engine running in an enclosed space, unless you are sure you have enough ventilation.
- Keep all open flames and other burning material, such as cigarettes, away from the battery and all fuel related parts.

## Working with the Engine Off

1. Set the parking brake and shift the transmission to park (P), for automatic transmission, or neutral (N), for manual transmission.
2. Switch off the engine.
3. Block the wheels.

## Working with the Engine On



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

1. Set the parking brake and shift the transmission to park (P), for automatic transmission, or neutral (N), for manual transmission.
2. Block the wheels.

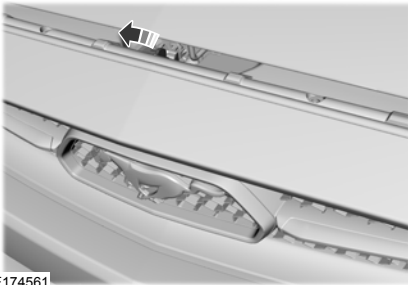
## OPENING AND CLOSING THE HOOD

### 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.

# Maintenance



E174561

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



E256471

4. Open the hood. Support the hood with the strut.

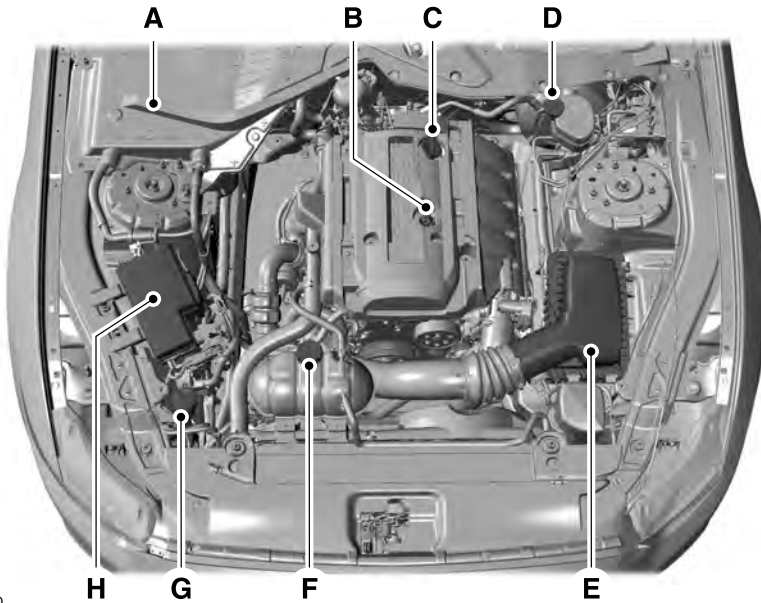
## Closing the Hood

1. Remove the hood strut from the catch and secure it correctly after use.
2. Lower the hood and allow it to drop under its own weight for the last 8–12 in (20–30 cm).

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

# Maintenance

## UNDER HOOD OVERVIEW - 2.3L ECOBOOST™



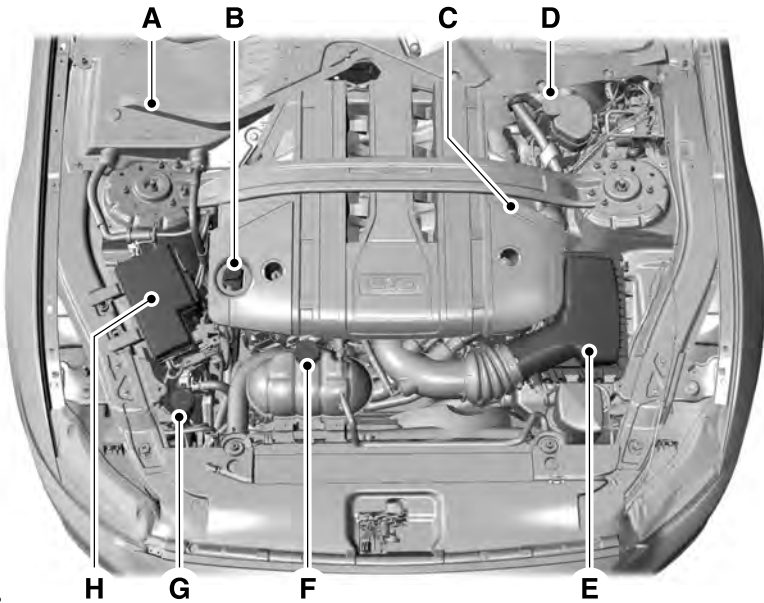
E174450

- A Battery (out of view). See **Changing the 12V Battery** (page 270).
- B Engine oil dipstick. See **Engine Oil Dipstick** (page 261).
- C Engine oil filler cap. See **Engine Oil Check** (page 261).
- D Brake fluid reservoir. See **Brake Fluid Check** (page 269).
- E Air filter assembly. See **Changing the Engine Air Filter** (page 262).
- F Engine coolant reservoir. See **Engine Coolant Check** (page 264).
- G Windshield washer fluid reservoir. See **Washer Fluid Check** (page 274).
- H Power distribution box. See **Fuses** (page 245).

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

# Maintenance

## UNDER HOOD OVERVIEW - 5.0L

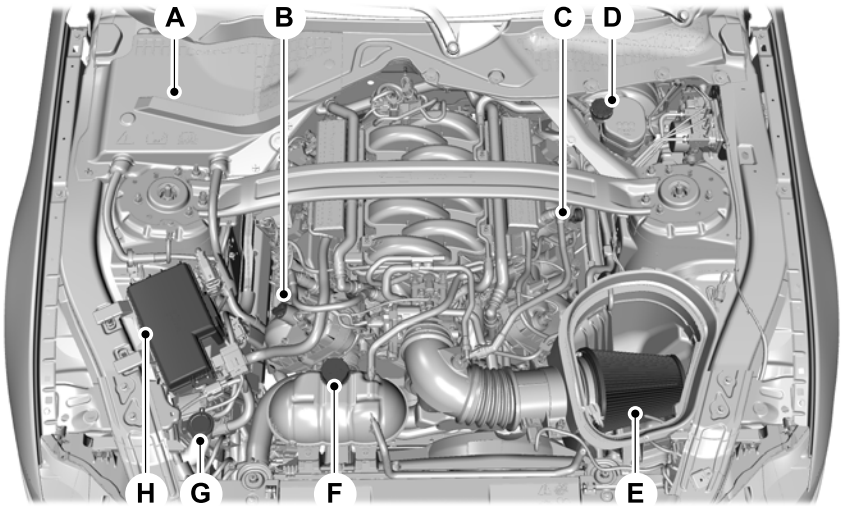


E250052

- A. Battery (out of view). See **Changing the 12V Battery** (page 270).
- B. Engine oil filler cap. See **Engine Oil Check** (page 261).
- C. Engine oil dipstick. See **Engine Oil Dipstick** (page 261).
- D. Brake fluid reservoir. See **Brake Fluid Check** (page 269).
- E. Air filter. See **Changing the Engine Air Filter** (page 262).
- F. Engine coolant reservoir. See **Engine Coolant Check** (page 264).
- G. Washer system fluid reservoir. See **Washer Fluid Check** (page 274).
- H. Engine compartment fuse box. See **Fuses** (page 245).

# Maintenance

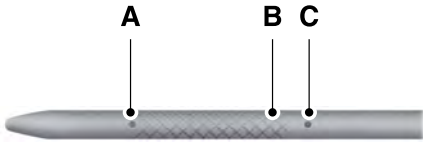
## UNDER HOOD OVERVIEW - 5.0L, MACH 1



- A Battery (out of view). See **Changing the 12V Battery** (page 270).
- B Engine oil filler cap. See **Engine Oil Check** (page 261).
- C Engine oil dipstick. See **Engine Oil Dipstick** (page 261).
- D Brake fluid reservoir. See **Brake Fluid Check** (page 269).
- E Air filter assembly. See **Changing the Engine Air Filter** (page 262).
- F Engine coolant reservoir. See **Engine Coolant Check** (page 264).
- G Windshield washer reservoir. See **Washer Fluid Check** (page 274).
- H Power distribution box. See **Changing a Fuse** (page 254).

# Maintenance

## ENGINE OIL DIPSTICK




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


## ENGINE OIL CHECK

1. Make sure that your vehicle is on level ground.
2. Check the oil before starting the engine or switch the engine off and wait 10 minutes for the oil to drain into the oil pan.
3. Remove the dipstick and wipe it with a clean, lint-free cloth.
4. Reinstall the dipstick and make sure it is fully seated. Remove it again to check the oil level.
5. 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).*

## 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. They could cause 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.
3. Add engine oil that meets our specifications. See **Capacities and Specifications** (page 343).
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:** *Soak up any spillage with an absorbent cloth immediately.*

## OIL CHANGE INDICATOR RESET

Use the information display controls on the steering wheel to reset the oil change indicator.



# Maintenance

From the main menu scroll to:

Message	Action and description
Settings	Press the right arrow button, then from this menu scroll to the following message.
Advanced Settings	Press OK
Vehicle	Press the right arrow button, then from this menu scroll to the following message.
Oil Life	Press the right arrow button, then from this menu scroll to the following message.
Hold OK to Reset	Press and hold the <b>OK</b> button until the instrument cluster displays the following message. Reset Successful
	When the oil change indicator resets the instrument cluster displays 100%. Remaining Life {00}%
	If the instrument cluster displays one of the following messages, repeat the process. Not Reset Reset Cancelled

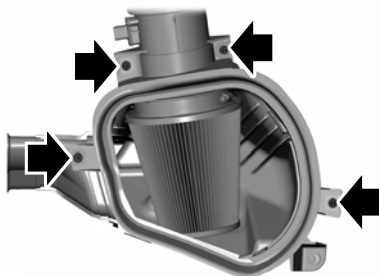
## CHANGING THE ENGINE AIR FILTER - 5.0L, MACH 1



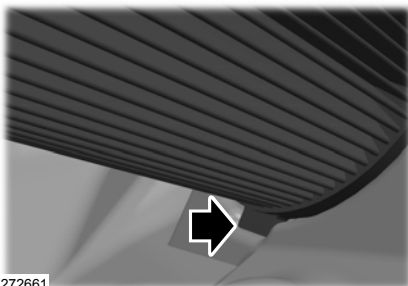
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

See the scheduled maintenance information for the appropriate intervals for changing the air filter element.

When changing the air filter element, use only the Motorcraft™ air filter element listed. See the Motorcraft part numbers in the Capacities and Specifications chapter.



E272660



E272661

# Maintenance

1. Remove the two sensor wire harness retainers from the air box studs located on the front side of the air box.
  2. Remove the four studs that fasten the upper air box housing to the lower air box housing.
  3. Separate the upper air box housing from the lower air box housing.
  4. Loosen the air filter clamp enough to allow the filter to slip off the housing easily.
  5. Remove the air filter from the air filter housing.
  6. Wipe the newly-exposed air filter outlet tube clamping area clean to remove any dirt or debris.
  7. Install a new air filter, taking care not to damage the air filter element. Align the tab on the closed end of the filter with the notch in the air filter housing.
  8. Tighten the air filter clamp down.
- Note:** Do not overtighten the clamp or studs when reinstalling.
9. Reinstall the upper air box piece to the lower air box piece. Tighten the 4 studs down.
  10. Reinstall the two sensor wire harness retainers to the mating air box studs.

## CHANGING THE ENGINE AIR FILTER - 2.3L ECOBOOST™/ 5.0L



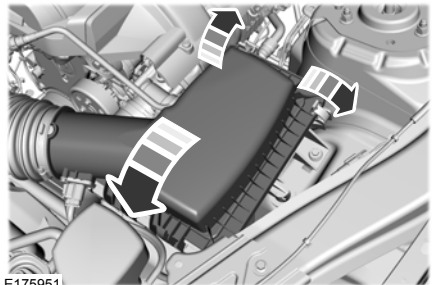
**WARNING:** To reduce the risk of vehicle damage and personal burn injuries, do not start your engine with the air cleaner removed and do not remove it while the engine is running.

**Note:** Failure to use the correct air filter element may result in severe engine damage. Your warranty may not cover these damages.

Only use the specified replacement air filter. See **Motorcraft Parts** (page 340).

For EcoBoost equipped vehicles: When servicing the air cleaner, it is important that no foreign material enter the air induction system. The engine and turbocharger are susceptible to damage from even small particles.

Change the air filter element at the proper intervals. Refer to Scheduled Maintenance Information.





1. Release the two clamps that secure the air filter housing cover.
2. Carefully lift the air filter housing cover.
3. Remove the air filter element from the air filter housing.
4. Wipe any dirt or debris from the air filter housing and cover to make sure no dirt gets in the engine and that you have a good seal.
5. Install a new air filter element. Be careful not to crimp the filter element edges between the air filter housing and cover. This could cause filter damage and allow unfiltered air to enter the engine if it is not properly seated.


# Maintenance

6. Replace the air filter housing cover.
7. Engage the clamps to secure the air filter housing cover to the air filter housing.

## ENGINE COOLANT CHECK

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

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

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

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


When the engine is cold, check the concentration and level of the coolant at the intervals listed in the scheduled maintenance information. See **Scheduled Maintenance** (page 441).


**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.

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

## Adding Coolant

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

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

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

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

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

# Maintenance

It is very important to use prediluted coolant approved to the correct specification in order to avoid plugging the small passageways in the engine cooling system. See **Capacities and Specifications** (page 335). Do not mix different colors or types of coolant in your vehicle. Mixing of engine coolants or using an incorrect coolant may harm the engine or cooling system components and may not be covered by the vehicle Warranty.

**Note:** *If prediluted coolant is not available, use the approved concentrated coolant diluting it to 50/50 with distilled water. See **Capacities and Specifications** (page 335). Using water that has not been deionised may contribute to deposit formation, corrosion and plugging of the small cooling system passageways.*

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

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

To top up the coolant level do the following:

1. Unscrew the cap slowly. Any pressure escapes as you unscrew the cap.
2. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 335).
3. Add enough prediluted coolant to reach the correct level.
4. Replace the coolant reservoir cap. Turn the cap clockwise until it contacts the hard stop.

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

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

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

1. Must drain the cooling system.
2. Chemically clean the coolant system.
3. Refill with engine coolant as soon as possible.

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

Do not use the following as a coolant substitute:

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

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

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

## Recycled Coolant

We do not recommend the use of recycled coolant as an approved recycling process is not yet available.

**Note:** *Dispose of used coolant in the appropriate manner.*

# Maintenance

Follow your community's regulations and standards for recycling and disposing of automotive fluids.

## Severe Climates

If you drive in extremely cold climates:

- It may be necessary to increase the coolant concentration above 50%.
- A coolant concentration of 60% provides improved freeze point protection.
- Coolant concentrations above 60% decrease the overheat protection characteristics of the coolant and may cause engine damage.

If you drive in extremely hot climates:

- You can decrease the coolant concentration to 40%.
- A coolant concentration of 40% provides improved overheat protection.
- Coolant concentrations below 40% decrease the overheat and corrosion protection characteristics of the coolant and may cause engine damage.

Vehicles driven year-round in non-extreme climates should use prediluted coolant for optimum cooling system and engine protection.

## Coolant Change

At specific mileage intervals, as listed in the scheduled maintenance information, the coolant should be changed. Add prediluted coolant approved to the correct specification. See **Capacities and Specifications** (page 335).

## Fail-Safe Cooling

Fail-safe cooling allows you to temporarily drive your vehicle before any incremental component damage occurs. The fail-safe distance depends on ambient temperature, vehicle load and terrain.

### How Fail-Safe Cooling Works



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



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

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

When this occurs, your vehicle still operates, however:

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

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

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

### When Fail-Safe Mode Is Activated



**WARNING:** Fail-safe mode is for use during emergencies only. Operate your vehicle in fail-safe mode only as long as necessary to bring your vehicle to rest in a safe location and seek immediate repairs. When in fail-safe mode, your vehicle will have limited power, will not be able to maintain

# Maintenance

high-speed operation, and may completely shut down without warning, potentially losing engine power, power steering assist, and power brake assist, which may increase the possibility of a crash resulting in serious injury.



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

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

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

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

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

## Engine Coolant Temperature Management (If Equipped)



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

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

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

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

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

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

# Maintenance

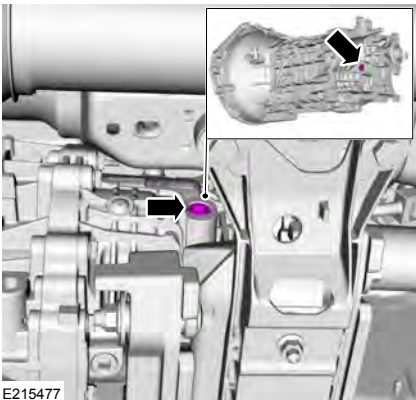
1. Stop your vehicle as soon as it is safe to do so. Fully apply the parking brake, shift into park (P) or neutral (N).
2. Leave the engine running until the coolant temperature gauge needle returns to the normal position. If the temperature does not drop after several minutes, follow the remaining steps.
3. Switch the engine off and wait for it to cool. Check the coolant level.
4. If the coolant level is at or below the minimum mark, add prediluted coolant immediately.
5. If the coolant level is normal, restart the engine and continue.
2. Remove the filler plug.
3. Start the engine and allow it to idle for two minutes with the clutch engaged.
4. Add fluid through the filler hole.
5. The correct fluid fill level is 0.0–0.1 in (0–3 mm) below the bottom edge of the filler hole.
6. Install the filler plug.
7. Tighten the filler plug until you feel a strong resistance.

Only use fluid that meets our specifications. See **Capacities and Specifications** (page 335).

## MANUAL TRANSMISSION FLUID CHECK - 6-SPEED MANUAL TRANSMISSION – 3160

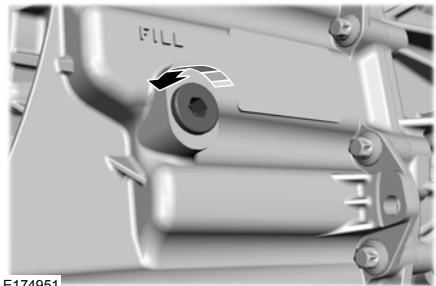
**Note:** Make sure the vehicle is on a level surface.

1. Clean the filler plug.



## MANUAL TRANSMISSION FLUID CHECK - 6-SPEED MANUAL TRANSMISSION – MT82

1. Clean the filler plug. The filler plug is on the right-hand side of the transmission.



2. Remove the filler plug.
3. The correct fluid fill level is 0.0–0.1 in (0–3 mm) below the bottom edge of the filler hole.
4. Add fluid through the filler hole.
5. Install the filler plug.

# Maintenance

6. Tighten the filler plug until you feel a strong resistance.

Only use fluid that meets Ford specifications. See **Capacities and Specifications** (page 335).

## AUTOMATIC TRANSMISSION FLUID CHECK

If required, have an authorized dealer check and change the transmission fluid at the correct service interval. See **Scheduled Maintenance** (page 441).

The automatic transmission does not have a transmission fluid dipstick.

Refer to your scheduled maintenance information for scheduled intervals for fluid checks and changes. Your transmission does not consume fluid. However, if the transmission slips, shifts slowly or if you notice a sign of leaking fluid, contact an authorized dealer.

Do not use supplemental transmission fluid additives, treatments or cleaning agents. The use of these materials may affect transmission operation and result in damage to internal transmission components.

## BRAKE FLUID CHECK

**WARNING:** Do not use any fluid other than the recommended brake fluid as this will reduce brake efficiency. Use of incorrect fluid could result in the loss of vehicle control, serious personal injury or death.

**WARNING:** Only use brake fluid from a sealed container. Contamination with dirt, water, petroleum products or other materials may result in brake system damage or failure. Failure to adhere to this warning could result in the loss of vehicle control, serious personal injury or death.

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

**WARNING:** The brake system could be affected if the brake fluid level is below the **MIN** mark or above the **MAX** mark on the brake fluid reservoir.



1. Park your vehicle on a level surface.
2. Look at the brake fluid reservoir to see where the brake fluid level is relative to the **MIN** and the **MAX** marks on the reservoir.



# Maintenance

**Note:** If the brake fluid level is between the **MIN** and the **MAX** marks on the reservoir, it is acceptable.

**Note:** If the brake fluid level is below the **MIN** mark or above the **MAX** mark, have your vehicle checked as soon as possible.

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

Only use fluid that meets our specifications. See **Capacities and Specifications** (page 335).

## Brake Fluid Service Interval

Brake fluid absorbs water over time which degrades the effectiveness of the brake fluid. Change the brake fluid at the specified intervals to prevent degraded braking performance.

For detailed interval information, see Scheduled Maintenance in your Owner's Manual or your local maintenance guide.

## CLUTCH FLUID CHECK - MANUAL TRANSMISSION

The clutch and brake systems share the same fluid reservoir. See **Brake Fluid Check** (page 269).

## POWER STEERING FLUID CHECK

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

## CHANGING THE 12V BATTERY



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



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



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



**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.**

# Maintenance



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



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

The battery is in the engine compartment. See **Under Hood Overview** (page 258).

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

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

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

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

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

If you replace the battery make sure it matches the electrical requirements of your vehicle.

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

## **Battery Management System (if Equipped)**

The battery management system monitors battery conditions and takes actions to extend battery life. If excessive battery drain is detected, the system temporarily disables some electrical systems to protect the battery.

Systems included are:

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

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

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.

# Maintenance

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

## Electrical Accessory Installation

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

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

## Remove and Reinstall the Battery

To disconnect or remove the battery, do the following:

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

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

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

8. To install, reverse the removal procedure.

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

**Note:** *Make sure the battery cable terminals are fully tightened.*

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

- Window bounce-back. See **Power Windows** (page 86).
- Clock Settings.
- Pre-set radio stations.

## Battery Disposal



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

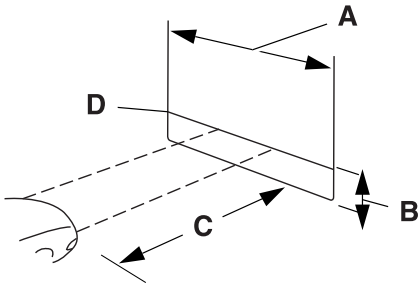
## ADJUSTING THE HEADLAMPS

### Vertical Aim Adjustment

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.

# Maintenance

## 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

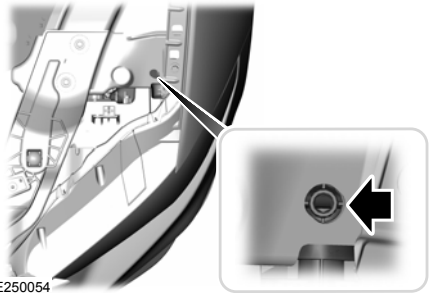
1. Park the vehicle directly in front of a wall or screen on a level surface, approximately 25 ft (7.6 m) away.
2. Measure the height from the center of your headlamp indicated by a 3 mm circle on the lens to the ground and mark an 8 ft (2.4 m) horizontal reference line on the vertical wall or screen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



E250054

5. 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.

# Maintenance

## Horizontal Aim Adjustment

The horizontal aim does not require any adjustment for this vehicle. If a fault occurs, have the system checked by an authorized dealer.

## WASHER FLUID CHECK



**WARNING:** If you operate your vehicle in temperatures below 40°F (5°C), use washer fluid with antifreeze protection. Failure to use washer fluid with antifreeze protection in cold weather could result in impaired windshield vision and increase the risk of injury or accident.

Add fluid to fill the reservoir if the level is low. Only use a washer fluid that meets Ford specifications. See **Capacities and Specifications** (page 335).

State or local regulations on volatile organic compounds may restrict the use of methanol, a common windshield washer antifreeze additive. Washer fluids containing non-methanol antifreeze agents should be used only if they provide cold weather protection without damaging the vehicle's paint finish, wiper blades or washer system.

## FUEL FILTER

Your vehicle is equipped with a lifetime fuel filter that is integrated with the fuel tank. Regular maintenance or replacement is not needed.

## CHECKING THE WIPER BLADES

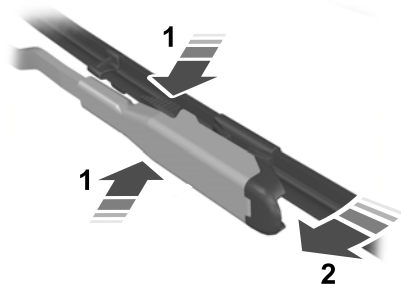


Run the tip of your fingers over the edge of the blade to check for roughness.

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

## CHANGING THE WIPER BLADES

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



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

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

# Maintenance

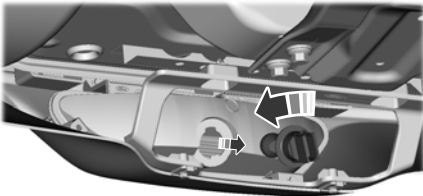
Poor wiper quality can be improved by cleaning the wiper blades and the windshield. See **Cleaning the Windows and Wiper Blades** (page 294).

- Central high mounted brake lamp.
- Front direction indicator.
- Rear direction indicator lamp.
- License plate lamp.

## CHANGING A BULB

### Replacing Reverse Lamp Bulbs

1. Make sure the lighting control is in the off position.
2. Locate the reverse lamp bulb under the rear bumper of your vehicle. To access the bulb, reach behind the bumper.
3. Disconnect the electrical sensor from the bulb by pulling it straight off.



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4. Rotate the bulb counterclockwise and remove it from the reverse lamp assembly.

### LED Lamps

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

The following are LED lamps:

- Headlamps.
- Rear lamp.
- Brake lamp.
- Front fog lamp.
- Front sidemarker
- Daytime running lamp.

# Track Use

## TRACK USE - MACH 1

### Operating at High Speeds and Track Days

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 **Technical Specifications** (page 334).
- Verify fluid levels for oil, coolant, brake and hydraulic fluid. See **Capacities and Specifications** (page 335).
- Change the engine oil and replace the engine oil filter prior to use on the track. Change the engine oil and filter again after every four hours of track time. Maintain the engine oil level at or near the max mark on the engine oil dipstick. See **Engine Oil Check** (page 261).
- Replace the brake fluid with fresh Motorcraft/Ford DOT 4 LV High Performance Brake Fluid or other DOT compliant fluid with a dry boiling point greater than 500°F (260°C) from a sealed container. Do not use silicone or DOT 5 brake fluids.

- If you are operating your Mach 1 on a drag strip, use 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 Mach 1 on a road course, use sport or track selectable drive modes to provide a specific set-up tuned for optimal shift and suspension set-up that is tuned towards handling prowess on closed course surfaces.

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 **Technical Specifications** (page 334).
- Check all fluid levels.
- Refer to the track maintenance interval chart. See **Normal Scheduled Maintenance** (page 444).
- Check the front and rear wheel bearings for abnormal wear.
- Inspect brake caliper dust boots for abnormal wear.

### Track Apps



**WARNING:** *Track Apps™* is for track use only. Remember that even advanced technology cannot defy the laws of physics. It is 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.

# Track Use

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This information display driven feature provides a suite of menu options to record and optimize your track performances. See **General Information** (page 99).

**Note:** *Track Apps are for track use only. Do not use them under any other driving conditions.*

**Note:** *You cannot view or clear your results unless your vehicle is at a complete stop with the right arrow on the display menu inactive. If your vehicle does not reach 100 mph (160 km/h) during the track run, your display may not show your selected interval's results.*

**Note:** *The pre-collision assist system turns off when using Track Apps or when you switch off your stability control system.*

## Acceleration Timer

Displays your vehicle's rate of acceleration for a given speed or distance range.

## Accelerometer

Displays your vehicle's rate of acceleration or deceleration. A dot moves toward the area of acceleration or deceleration.

### LEFT Acceleration or Deceleration

When accelerating or decelerating left, the dot moves to the right on the accelerometer.

### RIGHT Acceleration or Deceleration

When accelerating or decelerating right, the dot moves to the left on the accelerometer.

## Brake Performance

Displays your vehicle's rate of deceleration for a given speed range.

## Exhaust Mode

Gives the driver the ability to choose the vehicle's exhaust mode.

**Note:** *The Track Exhaust Mode setting is only for use at tracks and not for use on public roadways. Use of this setting results in increased exterior noise, which may not meet state and local laws and regulations. It is the obligation of the driver to operate the vehicle in a manner that complies with state and local requirements. Only use the Track Exhaust Mode setting at a competition track or an off-road course where elevated exterior vehicle noise is acceptable.*

## Lap Timer

Gives you the ability to record lap times at three separate tracks.

## Launch Control (If Equipped)

Maximizes your vehicle's traction from a standing start.

Follow these steps to use launch control:

1. Bring your vehicle to a complete stop.
2. Make sure launch control is enabled. The indicator illuminates in the information display when launch control is enabled. See **Warning Lamps and Indicators** (page 94).
3. Fully press the clutch pedal.
4. Shift the transmission into 1st gear.
5. Fully depress the accelerator pedal and allow the engine RPM to stabilize.
6. Release the clutch pedal.



# Track Use

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## Line Lock

Line lock is a feature intended for use at tracks only and should not be used on public roadways. Use of this feature may result in significantly increased rear tire wear. It is intended to condition the rear tires to maximize traction prior to track use. Line lock maintains brake force at the front wheels, allowing the rear wheels to spin with minimal vehicle movement.

This feature is located in the Track Apps menu. Make selections through the 5-way information display control and OK button located on the steering wheel.

## Using Line Lock

There are three line lock stages:

- Initiated.
- Engaged.
- Off.

## Initiating Line Lock

The initiation stage verifies that the vehicle is ready for line lock function, and confirms driver intent. Follow the prompts in the information display to initiate line lock.

The following conditions must be met to initialize line lock:

- The vehicle is on a level surface.
- The engine is running.
- The vehicle is traveling less than 25 mph (40 km/h).
- Selectable drive mode is not in wet mode (if equipped).
- There are no electronic stability control faults.

If you want to cancel line lock once it is initialized, press the left information display control. Once initiated, line lock is prepared for activation and remains initiated up to 25 mph (40 km/h). If vehicle speed exceeds 25 mph (40 km/h), line lock automatically cancels.

## Engaging Line Lock

Follow the prompts in the information display to engage line lock after it is initialized. To engage, firmly apply the brakes. Then press the OK button. Once engaged, release the brake pedal. The front brakes remain applied and the rear brakes release. At this point, the engagement timer is initiated and shown on the driver information display.

The following conditions must be met to engage line lock:

- The vehicle is on a level surface.
- The engine is running.
- The vehicle is stopped.
- The parking brake is not applied.
- The driver door is closed.
- The transmission is in a forward gear.
- Selectable drive mode is not in wet mode (if equipped).
- There are no electronic stability control faults.
- The steering wheel must be in the straight ahead position.

## Releasing Line Lock

While line lock is engaged, you can exit (release) the feature using the OK button. When you press the OK button, line lock releases immediately and normal vehicle function resumes. When line lock engages, a countdown timer shows the remaining

# Track Use

time before line lock is released automatically. If you exceed the time limit, or another vehicle condition requires line lock to release, the system safely disengages and normal vehicle function resumes.

**Note:** *If you apply the brake pedal while line lock is engaged, line lock automatically cancels and normal brake function resumes.*

## Performance Shift Indicator

The performance shift indicator displays a row of colored lights that represent engine RPM.

The performance shift indicator menu allows you to:

- Choose whether the indicator is shown on the windshield or information display.
- Set a shift point within the allowable RPM range in increments of 100.
- Enable or disable the associated shift tone, based on the set shift point.
- Set the between off, change with drive mode, tach, track and drag.
- Set the light intensity. The intensity adjusts between day time and night time.

## Start Option

Allows you to select the type of countdown the information display shows before starting an event.

## Status Screen

Provides the status of your chosen performance-related settings.

## View/Clear Results

Allows you to view and clear the last and saved results of the Acceleration Timer, Brake Performance, and All Time Best results.

## Road Course Alignment Recommendations

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

**Note:** *Using these wheel alignment settings may cause excessive tire wear. Only use these settings for racing or competitive driving. Excessive tire wear is not covered under the vehicle warranty.*

If you plan to participate in road course track days, we recommend the following chassis settings for optimal tire wear and handling performance.

All settings are at curb loading condition full of fuel.

## Mach 1

Front	Track	Street
Camber	-1.5°	-1.03°
Toe - Total	0°	0°

# Track Use

Rear	Track	Street
Camber	-1.5°	-1.5°
Toe - Total	0.24°	0.24°

## Mach 1 with Handling Package

Front	Track	Street
Camber	-2.25°	-1.21°
Toe - Total	0.1°	0.1°

Rear	Track	Street
Camber	-1.5°	-1.14°
Toe - Total	0.3°	0.3°

## Track Tire Pressures

### Cold Tire Pressures

Tire Pressure	Front	Rear
Mach 1	30 psi (2.07 bar)	30 psi (2.07 bar)
Mach 1 with Handling Package	28 psi (1.93 bar)	28 psi (1.93 bar)

### Hot Tire Pressures

Tire Pressure	Front	Rear
Mach 1	Less than 38 psi (2.62 bar)	Less than 38 psi (2.62 bar)
Mach 1 with Handling Package	Less than 36 psi (2.48 bar)	Less than 36 psi (2.48 bar)

## Track Use Maintenance Intervals

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

# Track Use

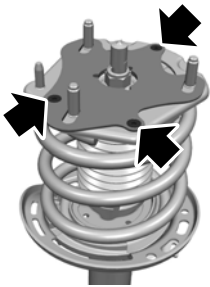
Interval	Vehicle Use and Example
One track weekend or approximately 4 hours of track use	Change the engine oil and filter
Every 500 mi (800 km)	Change the rear axle fluid <sup>1</sup>

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

## Adjustable Camber Front Strut Top Mounts (vehicles with Optional Handling Package)

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.

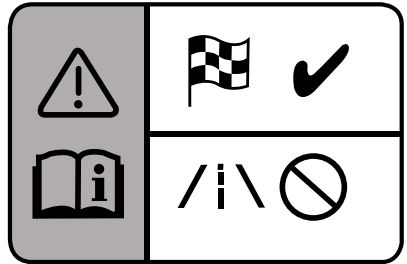
**Note:** After your track day is complete, return your car to the street alignment and tire pressures.



**Note:** The adjustable camber front strut mounts are fitted with three set screws that must be removed before camber can be adjusted. If you cannot adjust the camber, please see your authorized dealer or call 800-367-3788 for more details to remove the set screws.

## 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.

# Track Use



**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.**

## Brake Burnishing

The brakes should be properly burnished 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 TrackApps menu in your information display.

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 omit 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 TrackApps menu in your information display.

# Track Use

## TRACK USE

Appropriately change the engine oil for racing and other track events:

- 2.3L: Prior to the track event, drain the engine oil, replace the oil filter and change the engine oil to 5W-50. After the track event, drain the engine oil, replace the oil filter and refill the engine oil with 5W-30. See **Capacities and Specifications** (page 343).
- 5.0L: Prior to the track event, drain the engine oil, replace the oil filter and change the engine oil to 5W-30. After the track event, drain the engine oil, replace the oil filter and refill the engine oil with 5W-20. See **Capacities and Specifications** (page 343).

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 **Engine Oil Check** (page 261).

### Operating at High Speeds and Track Days

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 **Technical Specifications** (page 334).
- Verify fluid levels for oil, coolant, brake and hydraulic fluid. See **Capacities and Specifications** (page 335).
- 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 **Technical Specifications** (page 334).
- Check all fluid levels.
- Refer to the track maintenance interval chart. See **Normal Scheduled Maintenance** (page 444).
- Check the front and rear wheel bearings for abnormal wear.
- Inspect brake caliper dust boots for abnormal wear.

### Track Apps



**WARNING:** *Track Apps™* is for track use only. Remember that even advanced technology cannot defy the laws of physics. It is 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.

This information display driven feature provides a suite of menu options to record and optimize your track performances. See **General Information** (page 99).

**Note:** *Track Apps are for track use only. Do not use them under any other driving conditions.*

**Note:** *You cannot view or clear your results unless your vehicle is at a complete stop with the right arrow on the display menu inactive. If your vehicle does not reach 100 mph (160 km/h) during the track run, your display may not show your selected interval's results.*

# Track Use

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**Note:** *The pre-collision assist system turns off when using Track Apps or when you switch off your stability control system.*

## Acceleration Timer

Displays your vehicle's rate of acceleration for a given speed or distance range.

## Accelerometer

Displays your vehicle's rate of acceleration or deceleration. A dot moves toward the area of acceleration or deceleration.

## LEFT Acceleration or Deceleration

When accelerating or decelerating left, the dot moves to the right on the accelerometer.

## RIGHT Acceleration or Deceleration

When accelerating or decelerating right, the dot moves to the left on the accelerometer.

## Brake Performance

Displays your vehicle's rate of deceleration for a given speed range.

## Exhaust Mode

Gives the driver the ability to choose the vehicle's exhaust mode.

**Note:** *The Track Exhaust Mode setting is only for use at tracks and not for use on public roadways. Use of this setting results in increased exterior noise, which may not meet state and local laws and regulations. It is the obligation of the driver to operate the vehicle in a manner that complies with state and local requirements. Only use the Track Exhaust Mode setting at a competition track or an off-road course where elevated exterior vehicle noise is acceptable.*

## Lap Timer

Gives you the ability to record lap times at three separate tracks.

## Launch Control (If Equipped)

Maximizes your vehicle's traction from a standing start.

Follow these steps to use launch control:

1. Bring your vehicle to a complete stop.
2. Make sure launch control is enabled. The indicator illuminates in the instrument display when launch control is enabled. See **Warning Lamps and Indicators** (page 94).
3. Fully press the clutch pedal.
4. Shift the transmission into first gear.
5. Fully depress the accelerator pedal and allow the engine RPM to stabilize.
6. Release the clutch pedal.

## Line Lock

Line lock is a feature intended for use at tracks only and should not be used on public roadways. Use of this feature may result in significantly increased rear tire wear. It is intended to condition the rear tires to maximize traction prior to track use. Line lock maintains brake force at the front wheels, allowing the rear wheels to spin with minimal vehicle movement.

This feature is located in the Track Apps menu. Make selections through the 5-way information display control and OK button located on the steering wheel.

## Using Line Lock

There are three line lock stages:

- Initiated.
- Engaged.
- Off.

# Track Use

## Initiating Line Lock

The initiation stage verifies that the vehicle is ready for line lock function, and confirms driver intent. Follow the prompts in the information display to initiate line lock.

The following conditions must be met to initialize line lock:

- The vehicle is on a level surface.
- The engine is running.
- The vehicle is traveling less than 25 mph (40 km/h).
- Selectable drive mode is not in wet mode (if equipped).
- There are no electronic stability control faults.

If you want to cancel line lock once it is initialized, press the left information display control. Once initiated, line lock is prepared for activation and remains initiated up to 25 mph (40 km/h). If vehicle speed exceeds 25 mph (40 km/h), line lock automatically cancels.

## Engaging Line Lock

Follow the prompts in the information display to engage line lock after it is initialized. To engage, firmly apply the brakes. Then press the OK button. Once engaged, release the brake pedal. The front brakes remain applied and the rear brakes release. At this point, the engagement timer is initiated and shown on the driver information display.

The following conditions must be met to engage line lock:

- The vehicle is on a level surface.
- The engine is running.
- The vehicle is stopped.
- The parking brake is not applied.
- The driver door is closed.
- The transmission is in a forward gear.

- Selectable drive mode is not in wet mode (if equipped).
- There are no electronic stability control faults.
- The steering wheel must be in the straight ahead position.

## Releasing Line Lock

While line lock is engaged, you can exit (release) the feature using the OK button. When you press the OK button, line lock releases immediately and normal vehicle function resumes. When line lock engages, a countdown timer shows the remaining time before line lock is released automatically. If you exceed the time limit, or another vehicle condition requires line lock to release, the system safely disengages and normal vehicle function resumes.

**Note:** *If you apply the brake pedal while line lock is engaged, line lock automatically cancels and normal brake function resumes.*

## Performance Shift Indicator

The performance shift indicator displays a row of colored lights that represent engine RPM.

The performance shift indicator menu allows you to:

- Choose whether the indicator is shown on the windshield or information display.
- Set a shift point within the allowable RPM range in increments of 100.
- Enable or disable the associated shift tone, based on the set shift point.
- Set the between off, change with drive mode, tach, track and drag.
- Set the light intensity. The intensity adjusts between day time and night time.



# Track Use

## Start Option

Allows you to select the type of countdown the information display shows before starting an event.

## Status Screen

Provides the status of your chosen performance-related settings.

## View/Clear Results

Allows you to view and clear the last and saved results of the Acceleration Timer, Brake Performance, and All Time Best results.

## 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) <sup>1</sup>	Change the rear axle fluid

<sup>1</sup> Change the fluid every 500 mi (800 km) or when a message appears in the information 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 light 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.

## Aerodynamics (If Equipped)

### Adjustable Rear Wing

The rear wing generates aerodynamic down-force at speeds greater than 50 mph (80 km/h).

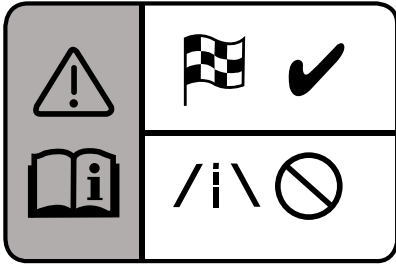
Regularly inspect the rear wing panel and attachment points for damage or looseness.

You can adjust the wing using the hole pattern at the top of the stanchion.

Moving the wing up increases rear down force and overall understeer. Moving the wing down decreases the rear down force and overall understeer.

# Track Use

## 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 through 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

The brakes should be properly burnished 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.

# Track Use

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## 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 TrackApps menu in your instrument display.

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 omit 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 TrackApps menu in the instrument cluster display.

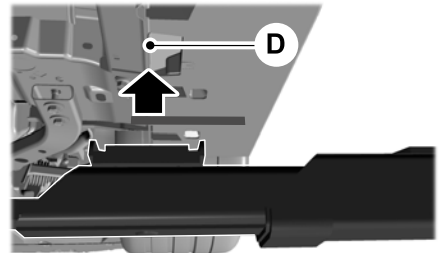
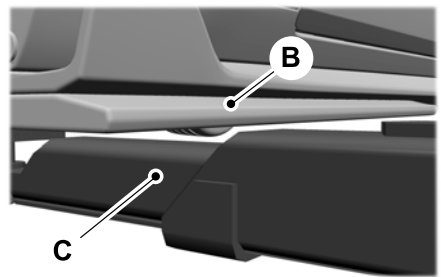
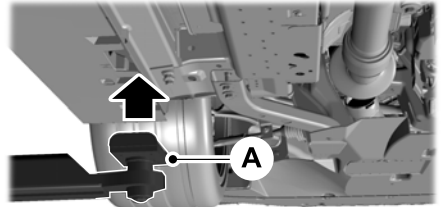
# Vehicle Care

## GENERAL INFORMATION

Your dealer has many quality products available to clean your vehicle and protect its finishes.

## GENERAL INFORMATION - GT500/MACH 1

### Lifting Your Vehicle



- A Hoist pad.
- B Rocker molding.
- C Hoist arm.
- D Sill flange.

# Vehicle Care

## Using a Two Post Vehicle Hoist

When using a vehicle hoist, make sure the rocker moldings (B) do not contact or interfere with the hoist arms (C) or damage to your vehicle may occur.

Follow these steps to hoist your vehicle:

1. Align your vehicle with the hoist and position the hoist pads (A) to align with the sill flange (D).

2. Lift the hoist until all four hoist pads (A) make contact with the sill flange (D).

**Note:** *The hoist pad (A) may contact the bottom of the rocker molding (B). If the vehicle is hoisted from the proper location this does not damage the part.*

3. Inspect all hoist arms (C) for any interference or contact with the rocker molding (B).

4. If there is no contact with any hoist arm (C), your vehicle can be lifted safely.

**If there is contact with any hoist arm (C), do not lift the vehicle and follow these instructions:**

1. Make sure the hoist arms (C) are fully lowered to the ground.

2. If necessary, adjust the hoist pad (A) height until it makes contact with the sill flange (D) and the rocker molding (B) is clear from the hoist arm. Hoist pad (A), height can usually be adjusted by rotating the hoist pad (A) counter-clockwise.
3. If the vehicle hoist does not use adjustable pads, install spacers onto the hoist pad (A) for the same effect.

**Note:** *Do not use wood spacers as they could split along the grain of the wood.*

4. Raise the hoist until the hoist pads (A) make contact with the sill flange (D). Make sure there is no contact between the rocker molding (B) and all hoist arms (C) before lifting the vehicle.

## CLEANING PRODUCTS

### Materials

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

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

Name	Specification
Motorcraft® Bug and Tar Remover, ZC-42 (U.S. & Canada)	
Motorcraft® Custom Bright Metal Cleaner, ZC-15 (U.S. & Canada)	ESR-M5B194-B
Motorcraft® Detail Wash, ZC-3-A (U.S. & Canada)	ESR-M14P4-A
Motorcraft® Engine Shampoo and Degreaser, ZC-20 (U.S.)	ESR-M14P3-A
Motorcraft® Engine Shampoo, CXC-66-A (Canada)	
Motorcraft® Premium Leather and Vinyl Cleaner, ZC-56 (U.S. & Canada)	
Motorcraft® Multi-Purpose Cleaner, CXC-101 (Canada)	

# Vehicle Care

Name	Specification
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 - MACH 1

### Washing Your Vehicle

**Note:** Do not use a touchless car wash or any kind of commercial car wash equipment with front splitter wickers installed.

**Note:** Always hand wash your vehicle if you have vinyl stripes.

Do not drive your vehicle through an automated, commercial car wash due to the vehicle's low ground clearance and tire width. Wash your vehicle by hand, or by using a touchless commercial wash with no mechanical tracks on the floor. Do not use a power washer or high pressure wand.

To maintain proper cooling and aerodynamics at high speeds, your vehicle has heat exchangers integrated with the front fascia designed to maximize performance. Do not use a power washer or high powered spray nozzle as damage to the cooling fins could occur.

**Note:** For heavy accumulation of debris or dirt, clean with a non-metallic soft bristle car wash brush and warm soapy water as needed.

## CLEANING THE EXTERIOR

Wash your vehicle regularly with cool or lukewarm water and a neutral pH shampoo, we recommend Motorcraft Detail Wash.

- Never use strong household detergents or soap, for example dish washing or laundry liquid. These products can discolor and spot painted surfaces.
- Never wash your vehicle when it is hot to the touch, or during strong or direct sunlight.
- Dry your vehicle with a chamois or soft terry cloth towel to eliminate water spotting.
- Immediately remove fuel spillages, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time. We recommend Motorcraft Bug and Tar Remover.

# Vehicle Care

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- Remove any exterior accessories, for example antennas, before entering a car wash.
- When filling with AdBlue®, remove any residue on painted surfaces immediately.

**Note:** *Suntan lotions and insect repellents can damage painted surfaces. If these substances come in contact with your vehicle, wash the affected area as soon as possible.*

## Cleaning the Exterior Precautions

Immediately remove fuel spillages, AdBlue residuals, bird droppings, insect deposits and road tar. These may cause damage to your vehicle's paintwork or trim over time.

Remove any exterior accessories, for example antennas, before entering a car wash.

## Cleaning the Exterior Lamps

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

**Note:** *Do not wipe the exterior lamps when they are dry.*

## Exterior Chrome Parts

- Apply a high quality-cleaning product to bumpers and other chrome parts. Follow the manufacturer's instructions. We recommend Motorcraft Custom Bright Metal Cleaner.
- Do not apply the cleaning product to hot surfaces. Do not leave the cleaning product on chrome surfaces longer than the time recommended.
- Using non-recommended cleaners can result in severe and permanent cosmetic damage.

**Note:** *Never use abrasive materials, for example steel wool or plastic pads as they can scratch the chrome surface.*

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

## Exterior Plastic Parts

For routine cleaning we recommend Motorcraft Detail Wash. If tar or grease spots are present, we recommend Motorcraft Bug and Tar Remover.

## Stripes or Graphics (If Equipped)

Hand washing your vehicle is preferred however, pressure washing may be used under the following conditions:

- Do not use water pressure higher than 2,000 psi (14,000 kPa).
- Do not use water hotter than 179°F (82°C).
- Use a spray with a 40 degree wide spray angle pattern.
- Keep the nozzle at a 12 in (305 mm) distance and 90 degree angle to your vehicle's surface.

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

## Underbody

Regularly clean the underside of your vehicle using water. Keep body and door drain holes free of debris or foreign material.

## Under Hood

For removing black rubber marks from under the hood we recommend Motorcraft Wheel and Tire Cleaner or Motorcraft Bug and Tar Remover.

# Vehicle Care

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## WAXING

Regular waxing is necessary to protect your car's paint from the elements. We recommend that you wash and wax the painted surface once or twice a year.

When washing and waxing, park your vehicle in a shaded area out of direct sunlight. Always wash your vehicle before applying wax.

- Use a quality wax that does not contain abrasives.
- Follow the manufacturer's instructions to apply and remove the wax.
- Apply a small amount of wax in a back-and-forth motion, not in circles.
- Do not allow wax to come in contact with any non-body (low-gloss black) colored trim. The wax will discolor or stain the parts over time.
  - Roof racks.
  - Bumpers.
  - Grained door handles.
  - Side moldings.
  - Mirror housings.
  - Windshield cowl area.
- Do not apply wax to glass areas.
- After waxing, your car's paint should feel smooth, and be free of streaks and smudges.

## CLEANING THE ENGINE - MACH 1

**Note:** Do not allow water or cleaning solutions to contact the exposed air filter element. Cover the air filter assembly and avoid spraying water at it.

## CLEANING THE ENGINE

Engines are more efficient when they are clean because grease and dirt buildup keep the engine warmer than normal.

When washing:

- Take care when using a power washer to clean the engine. The high-pressure fluid could penetrate the sealed parts and cause damage.
- Do not spray a hot engine with cold water to avoid cracking the engine block or other engine components.
- Spray Motorcraft Engine Shampoo and Degreaser on all parts that require cleaning and pressure rinse clean. In Canada, use Motorcraft Engine Shampoo.

**Note:** If your vehicle has an engine cover remove the cover before application of Motorcraft Engine Shampoo and Degreaser. Immediately rinse away any over spray.

- Never wash or rinse the engine while it is hot or running; water in the running engine may cause internal damage.
- Never wash or rinse any ignition coil, spark plug wire or spark plug well, or the area in and around these locations.
- Cover the battery, power distribution box, and air filter assembly to prevent water damage when cleaning the engine.

**Note:** Do not allow water or cleaning solutions to contact the exposed air filter element. Cover the air filter assembly and avoid spraying water at it.



# Vehicle Care

## CLEANING THE WINDOWS AND WIPER BLADES

Car wash chemicals and environmental fallout can result in windshield and wiper blade contamination. Dirty windshield and wipers will result in poor windshield wiper operation. Keep the windshield and wiper blades clean to maintain windshield wiper performance.

To clean the windshield and wiper blades:

- Clean the windshield with a non-abrasive glass cleaner. When cleaning the interior of the windshield, avoid getting any glass cleaner on the instrument panel or door panels. Wipe any glass cleaner off these surfaces immediately.
- For windshields contaminated with tree sap, chemicals, wax or bugs, clean the entire windshield using steel wool (no greater than 0000 grade) in a circular motion and rinse with water.
- Clean the wiper blades with isopropyl rubbing alcohol or windshield washer concentrate.

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

## CLEANING THE INTERIOR



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



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

For fabric, carpets, cloth seats and seats equipped with side airbags:

- Remove dust and loose dirt with a vacuum cleaner.
- Remove light stains and soil with Motorcraft Professional Strength Carpet & Upholstery Cleaner.
- If grease or tar is present on the material, spot-clean the area first with Motorcraft Spot and Stain Remover. In Canada, use Motorcraft Multi-Purpose Cleaner.
- If a ring forms on the fabric after spot cleaning, clean the entire area immediately (but do not oversaturate) or the ring will set.
- Do not use household cleaning products or glass cleaners, which can stain and discolor the fabric and affect the flame retardant abilities of the seat materials.

## Mirrors

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

# Vehicle Care

## CLEANING THE INSTRUMENT PANEL AND INSTRUMENT CLUSTER LENS



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

**Note:** Follow the same procedure as cleaning leather seats for cleaning leather instrument panels and leather interior trim surfaces. See **Cleaning Leather Seats** (page 295).

Clean the instrument panel and cluster lens with a clean, damp and soft cloth, then use a clean, dry and soft cloth to dry these areas.

- Avoid cleaners or polishes that increase the gloss of the upper portion of the instrument panel. The dull finish in this area helps protect you from undesirable windshield reflection.
- Do not use any household cleaning products or glass cleaners as these may damage the finish of the instrument panel, interior trim and cluster lens.
- Wash or wipe your hands clean if you have been in contact with certain products such as insect repellent and suntan lotion to avoid possible damage to the interior painted surfaces.
- Do not allow air fresheners and hand sanitizers to spill onto interior surfaces. If a spill occurs, wipe off immediately. Your warranty may not cover these damages.

If a staining liquid like coffee or juice has been spilled on the instrument panel or on interior trim surfaces:

1. Wipe up spilled liquid using a clean, soft cloth as quickly as possible.
2. Use Motorcraft Premium Leather and Vinyl Cleaner or a commercially available leather cleaning product for automotive interiors. Test any cleaner or stain remover on an inconspicuous area.
3. Alternatively, wipe the surface with a clean, soft cloth and a mild soap and water solution. Dry the area with a clean, soft cloth.
4. If necessary, apply more soap and water solution or cleaning product to a clean, soft cloth and press it onto the soiled area. Allow this to set at room temperature for 30 minutes.
5. Remove the soaked cloth, then with a clean, damp cloth, use a rubbing motion for 60 seconds on the soiled area.
6. Dry the area with a clean, soft cloth.

## CLEANING LEATHER SEATS (IF EQUIPPED)

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

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

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

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

# Vehicle Care

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You should:

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

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

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

## REPAIRING MINOR PAINT DAMAGE

Authorized dealers have touch-up paint to match your vehicle's color. Your vehicle color code is printed on a sticker on the front, left-hand side door jamb. Take your color code to your authorized dealer to make sure you get the correct color.

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

Read the instructions before using cleaning products.

## CLEANING THE WHEELS

1. Regularly clean them with a wheel cleaner. We recommend that you use Ford approved wheel cleaner if available.
2. Remove dirt and brake dust with a sponge.

3. Remove tar and grease with a bug and tar remover. We recommend that you use Ford approved bug and tar remover if available.
4. Thoroughly rinse the wheels with water after cleaning.

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

Do not clean the wheels when they are hot.

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

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

## VEHICLE STORAGE

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

We engineer and test all motor vehicles and their components for reliable, regular driving. Under various conditions, long-term storage may lead to degraded engine performance or failure unless you use specific precautions to preserve engine components.

### General

- Store all vehicles in a dry, ventilated place.
- Protect from sunlight, if possible.
- If vehicles are stored outside, they require regular maintenance to protect against rust and damage.

# Vehicle Care

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## Body

- Wash your vehicle thoroughly to remove dirt, grease, oil, tar or mud from exterior surfaces, rear-wheel housing and the underside of front fenders.
- Periodically wash your vehicle if it is stored in exposed locations.
- Touch-up exposed or primed metal to prevent rust.
- Cover chrome and stainless steel parts with a thick coat of auto wax to prevent discoloration. Re-wax as necessary when you wash your vehicle.
- Lubricate all hood, door and luggage compartment hinges and latches with a light grade oil.
- Cover interior trim to prevent fading.
- Keep all rubber parts free from oil and solvents.

## Engine

- Change the engine oil and filter prior to storage because used engine oil contains contaminants which may cause engine damage.
- Start the engine every 15 days for a minimum of 15 minutes. Run at fast idle with the climate controls set to defrost until the engine reaches normal operating temperature.
- With your foot on the brake, shift through all the gears while the engine is running.
- We recommend that you change the engine oil before you use your vehicle again.

## Fuel system

- Fill the fuel tank with high-quality fuel until the first automatic shutoff of the fuel pump nozzle.

## Cooling system

- Protect against freezing temperatures.
- When removing your vehicle from storage, check coolant fluid level. Confirm that there are no cooling system leaks and that fluid is at the recommended level.

## Disconnecting Your 12 Volt Battery

- Check and recharge as necessary. Keep connections clean.
- If storing your vehicle for more than 30 days without recharging the battery, we recommend that you disconnect the battery cables to maintain battery charge for quick starting.

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

## Brakes

- Make sure the brakes and parking brake release fully.

## Tires

- Maintain recommended air pressure.

## Miscellaneous

- Make sure all linkages, cables, levers and pins under your vehicle are covered with grease to prevent rust.
- Move vehicles at least 25 ft (7.5 m) every 15 days to lubricate working parts and prevent corrosion.

# Vehicle Care

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## Removing Vehicle From Storage

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

- Wash your vehicle to remove any dirt or grease film build-up on window surfaces.
- Check windshield wipers for any deterioration.
- Check under the hood for any foreign material that may have collected during storage such as mice or squirrel nests.
- Check the exhaust for any foreign material that may have collected during storage.
- Check tire pressures and set tire inflation per the Tire Label.
- Check brake pedal operation. Drive your vehicle 15 ft (4.5 m) back and forth to remove rust build-up.
- Check fluid levels (including coolant, oil and gas) to make sure there are no leaks, and fluids are at recommended levels.
- If you remove the battery, clean the battery cable ends and check for damage.

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

## CLEANING THE CONVERTIBLE TOP (IF EQUIPPED)

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

For cloth and vinyl tops, 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.

**Note:** Do not fold the convertible top when it is wet.

**Note:** Avoid hot wax on vinyl materials during car washes.

## BODY STYLING KITS (IF EQUIPPED)

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.

# Wheels and Tires

## GENERAL INFORMATION

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

Check and set the tire pressure at the ambient temperature in which you are intending to drive your vehicle and when the tires are cold.

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

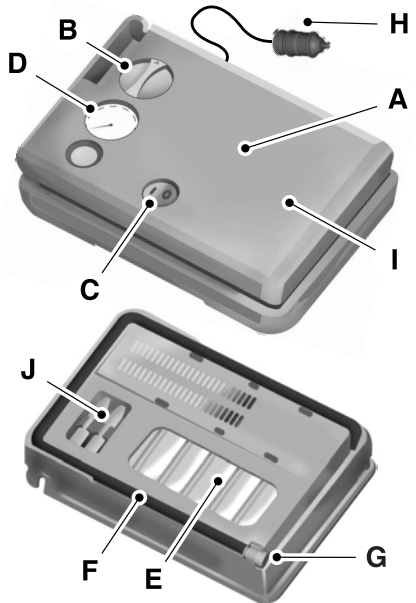
Only use approved wheel and tire sizes. Using other sizes could damage your vehicle and could make the National Type Approval invalid.

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

## TIRE SEALANT AND INFLATOR KIT

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

The kit is under the load floor in the cargo area. The kit consists of an air compressor to re-inflate the tire and a canister of sealing compound that effectively seals most punctures caused by nails or similar objects. 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.



- 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.

# Wheels and Tires

## General Information



**WARNING:** Failure to follow these guidelines could result in an increased risk of loss of vehicle control, injury or death.

**Note:** Do not use the kit if you have severely damaged a tire. Only seal punctures within the tire tread with the kit.

Do not attempt to repair punctures larger than ¼ inch (6 millimeters) or damage to the tire's sidewall. The tire may not completely seal.

Loss of air pressure may adversely affect tire performance. For this reason:

**Note:** Do not drive the vehicle above 50 mph (80 km/h).

**Note:** Do not drive further than 120 mi (200 km). Drive only to the closest authorized dealer or tire repair shop to have your tire inspected.

- Drive carefully and avoid abrupt steering maneuvers.
- Periodically monitor tire inflation pressure in the affected tire; if the tire is losing pressure, have the vehicle towed.
- Read the information in the Tips for Use of the Kit section to make sure safe operation of the kit and your vehicle.

## Tips for Use of the Kit

To ensure safe operation of the kit:

- Read all instructions and cautions fully.
- Before operating the kit, make sure your vehicle is safely off the road and away from moving traffic. Switch on the hazard lights.
- Always set the parking brake to ensure the vehicle does not move unexpectedly.

- Do not remove any foreign objects, such as nails or screws, from the tire.
- When using the kit, leave the engine running (only if the vehicle is outdoors or in a well-ventilated area) so the compressor does not drain the vehicle's battery.
- Do not allow the compressor to operate continuously for more than 15 minutes. This will help prevent the compressor from overheating.
- Never leave the kit unattended during operation.
- Sealant compound contains latex. Those with latex sensitivities should use appropriate precautions to avoid an allergic reaction.
- Keep the kit away from children.
- 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, which you can see 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.
- Do not store the kit unsecured inside the passenger compartment of the vehicle as it may cause injury during a sudden stop or crash. Always store the kit in its original location.
- After sealant use, an authorized dealer must replace the tire pressure monitoring system sensor and valve stem on the wheel.
- Operating the kit could cause an electrical disturbance in radio, CD and DVD player operation.

# Wheels and Tires



\* When inflation only is required for a tire or other objects, the selector must be in the Air position.

## What to do When a Tire Is Punctured

You can repair a tire puncture within the tire's tread area in two stages with the kit.

- In the first stage, inflate the tire with a sealing compound and air. After you inflate the tire, you will need to drive the vehicle a short distance 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: Inflating 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.



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

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

Switch the hazard lights on. Apply the parking brake and switch the engine off. Inspect the flat tire for visible damage.

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

Do not remove any foreign object that has pierced the tire. If a puncture is 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.

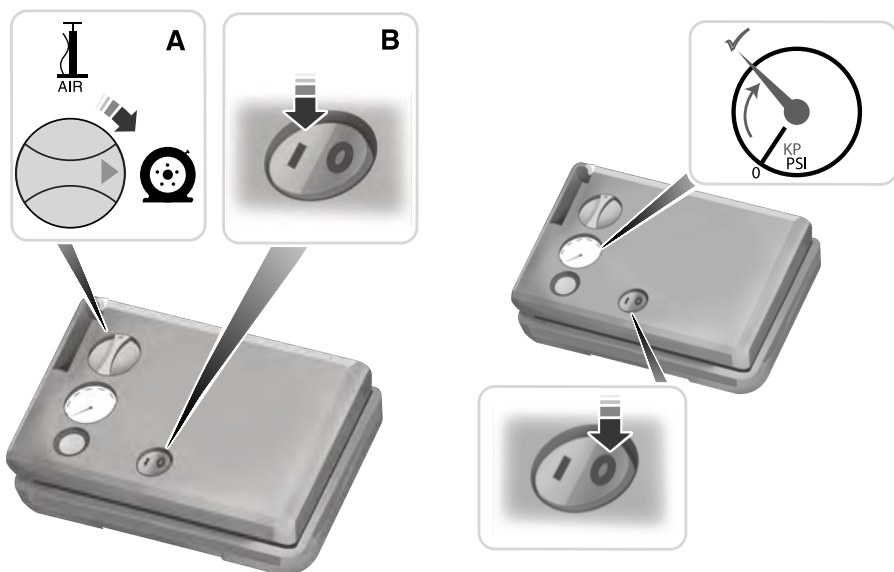


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4. Plug the power cable into the 12-volt power point in the vehicle.
5. Remove the warning sticker found on the casing/housing and place it on the top of the instrument panel or the center of the dash.
6. Start the vehicle and leave the engine running so the compressor does not drain the vehicle's battery.



## Wheels and Tires



7. Turn dial (A) clockwise to the sealant position. Switch the kit on by pressing the on/off button (B).
8. Inflate the tire to the pressure listed on the tire label on the driver's door or the door jamb area. The initial air pressure gauge reading may indicate a value higher than the label pressure while you pump the sealing compound into the tire. This is normal and should be no reason for concern. The pressure gauge reading will indicate the tire inflation pressure after about 30 seconds of operation. You should check the final tire pressure with the compressor turned OFF in order to get an accurate pressure reading.
9. When the tire reaches the recommended tire pressure, switch 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 stowage area.
10. Immediately and cautiously, drive the vehicle 4 mi (6 km) to distribute the sealant evenly inside the tire. Do not exceed 50 mph (80 km/h).
11. After 4 mi (6 km), stop and check the tire pressure. See Second Stage: Checking Tire Pressure.

# Wheels and Tires

**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. Note: Do not proceed to the second stage of this operation.*

## Second Stage: Checking Tire Pressure

**Note:** *If you are proceeding from the First Stage: Re-inflating the Tire with Sealing Compound and Air section and have injected sealant in the tire and the pressure is below 20 psi (1.4 bar), continue to the next step.*



**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, switch on the compressor and adjust the tire to the recommended inflation pressure shown on the tire label on the driver's door or door jamb area. You should check the tire pressure with the compressor turned OFF in order to get an accurate pressure reading.
5. Unplug the hoses, re-install the valve cap on the tire and return the kit to the stowage area.

## What to Do After the Tire Has Been Sealed

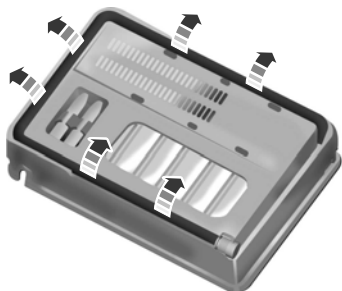
After using the kit to seal your tire, you will need to replace the sealant canister. You can obtain sealant canisters and spare parts at an authorized dealer. You can dispose of empty sealant canisters at home. However, you should dispose of canisters still containing liquid sealant through your local authorized dealer or tire dealer, or in accordance with local waste disposal regulation.

**Note:** *After you use the sealing compound, the maximum vehicle speed is 50 mph (80 km/h) and the maximum driving distance is 120 mi (200 km). You should inspect the sealed tire immediately.*

You can check the tire pressure any time within the 120 mi (200 km) by performing the steps listed previously in the Second Stage: Checking Tire Pressure procedure.

# Wheels and Tires

## 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.

# Wheels and Tires



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 into its storage area.

**Note:** *If you experience any difficulties with the removal or installation of the sealant canister, consult an authorized dealer for assistance.*

Make sure you check the sealant compound's use-by date regularly. The use-by date is on a label on the sealant canister, which you can see through the rectangular viewing window on the bottom of the kit. Replace the sealant canister when the sealant expires.

## TIRE CARE

### Information About Uniform Tire Quality Grading



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

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

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

# Wheels and Tires

## U.S. Department of Transportation Tire quality grades:

The U.S. Department of Transportation requires Ford Motor Company to give you the following information about tire grades exactly as the government has written it.

### Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear 1 ½ times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices, and differences in road characteristics and climate.

### Traction AA A B C



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

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

### Temperature A B C



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

The temperature grades are A (the highest), B and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the

# Wheels and Tires

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Federal Motor Vehicle Safety Standard No. 139. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

## Glossary of Tire Terminology

\***Tire label:** A label showing the original equipment tire sizes, recommended inflation pressure and the maximum weight the vehicle can carry.

\***Tire Identification Number (TIN):** A number on the sidewall of each tire providing information about the tire brand and manufacturing plant, tire size and date of manufacture. Also referred to as DOT code.

\***Inflation pressure:** A measure of the amount of air in a tire.

\***Standard load:** A class of P-metric or Metric tires designed to carry a maximum load at set pressure. For example: For P-metric tires 35 psi (2.4 bar) and for Metric tires 36 psi (2.5 bar). Increasing the inflation pressure beyond this pressure will not increase the tire 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's door.

\***B-pillar:** The structural member at the side of the vehicle behind the front door.

\***Bead area of the tire:** Area of the tire next to the rim.

\***Sidewall of the tire:** Area between the bead area and the tread.

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

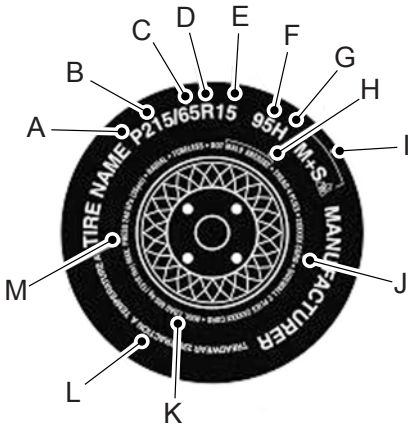
\***Rim:** The metal support (wheel) for a tire or a tire and tube assembly upon which the tire beads are seated.

# Wheels and Tires

## Information Contained on the Tire Sidewall

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

## Information on P Type Tires



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

## Wheels and Tires

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

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

Letter rating	Speed rating - mph (km/h)
M	81 (130)
N	87 (140)
Q	99 (159)
R	106 (171)
S	112 (180)
T	118 (190)
U	124 (200)
H	130 (210)
V	149 (240)

Letter rating	Speed rating - mph (km/h)
W	168 (270)
Y	186 (299)

**Note:** *For tires with a maximum speed capability over 149 mph (240 km/h), tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph (299 km/h), tire manufacturers always use the letters ZR.*

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

**I. M+S or M/S:** Mud and Snow, or  
**AT:** All Terrain, or  
**AS:** All Season.



## Wheels and Tires

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

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

### **L. Treadwear, Traction and Temperature Grades:**

**\*Treadwear:** The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half times as well on the government 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.

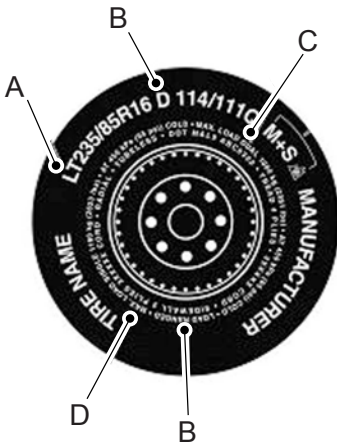
**M. Maximum Inflation Pressure:** Indicates the tire manufacturers' maximum permissible pressure or the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the vehicle manufacturer's recommended cold inflation pressure which can be found on the Safety 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.

# Wheels and Tires

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

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

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



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

**A. LT:** Indicates a tire, designated by the Tire and Rim Association, that is intended for service on light trucks.

**B. Load Range and Load Inflation Limits:** Indicates the tire's load-carrying capabilities and its inflation limits.

**C. Maximum Load Dual lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a dual, defined as four tires on the rear axle (a total of six or more tires on the vehicle).

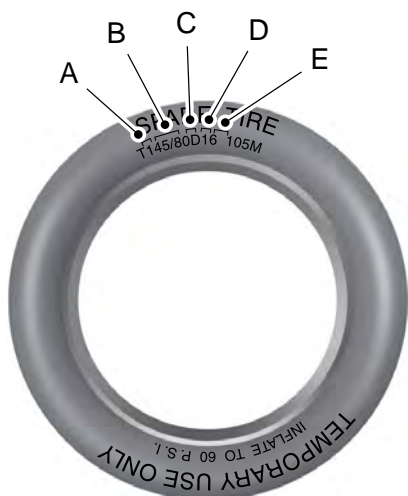
**D. Maximum Load Single lb (kg) at psi (kPa) cold:** Indicates the maximum load and tire pressure when the tire is used as a single, defined as two tires (total) on the rear axle.

## Information on T Type Tires

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

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

## Wheels and Tires



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.

### Location of the Tire Label

You will find a Tire Label containing tire inflation pressure by tire size and other important information located on the B-Pillar or the edge of the driver's door.

### Inflating Your Tires

Safe operation of your vehicle requires that your tires are properly inflated. Remember that a tire can lose up to half of its air pressure without appearing flat.

Every day before you drive, check your tires. If one looks lower than the others, use a tire gauge to check pressure of all tires and adjust if required.

At least once a month and before long trips, inspect each tire and check the tire pressure with a tire gauge (including spare, if equipped). Inflate all tires to the inflation pressure recommended by Ford Motor Company.

## Wheels and Tires

You are strongly urged to buy a reliable tire pressure gauge, as automatic service station gauges may be inaccurate. Ford recommends the use of a digital or dial-type tire pressure gauge rather than a stick-type tire pressure gauge.

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



**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!

Always inflate your tires to the Ford recommended inflation pressure even if it is less than the maximum inflation pressure information found on the tire. The Ford recommended tire inflation pressure is found on the Safety Compliance Certification Label

(affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or Tire Label which is located on the B-Pillar or the edge of the driver's door. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

**Maximum Inflation Pressure** is the tire manufacturer's maximum permissible pressure and the pressure at which the maximum load can be carried by the tire. This pressure is normally higher than the manufacturer's recommended cold inflation pressure which can be found on the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver'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 Safety Compliance Certification Label or Tire Label.

# Wheels and Tires

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When weather temperature changes occur, tire inflation pressures also change. A 43°F (6°C) temperature drop can cause a corresponding drop of 1 psi (7 kPa) in inflation pressure. Check your tire pressures frequently and adjust them to the proper pressure which can be found on the Safety Compliance Certification Label or Tire Label.

To check the pressure in your tire(s):

1. Make sure the tires are cool, meaning they are not hot from driving even a mile.

**Note:** *If you are checking tire pressure when the tire is hot, for example, driven more than 1 mi (1.6 km), never bleed or reduce air pressure. The tires are hot from driving and it is normal for pressures to increase above recommended cold pressures. A hot tire at or below recommended cold inflation pressure could be significantly under-inflated.*

**Note:** *If you have to drive a distance to get air for your tire(s), check and record the tire pressure first and add the appropriate air pressure when you get to the pump. It is normal for tires to heat up and the air pressure inside to go up as you drive.*

2. Remove the cap from the valve on one tire, then firmly press the tire gauge onto the valve and measure the pressure.

3. Add enough air to reach the recommended air pressure.

**Note:** *If you overfill the tire, release air by pressing on the metal stem in the center of the valve. Then recheck the pressure with your tire gauge.*

4. Replace the valve cap.
5. Repeat this procedure for each tire, including the spare.

**Note:** *Some spare tires operate at a higher inflation pressure than the other tires. For T type mini-spare tires, see the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at 60 psi (4.15 bar). For full-size and dissimilar spare tires, see the Dissimilar spare wheel and tire assembly information for a description. Store and maintain at the higher of the front and rear inflation pressure as shown on the Tire Label.*

6. Visually inspect the tires to make sure there are no nails or other objects embedded that could poke a hole in the tire and cause an air leak.
7. Check the sidewalls to make sure there are no gouges, cuts or bulges.

# Wheels and Tires

## Inspecting Your Tires and Wheel Valve Stems

Periodically inspect the tire treads for uneven or excessive wear and remove objects such as stones, nails or glass that may be wedged in the tread grooves. Check the tire and valve stems for holes, cracks, or cuts that may permit air leakage and repair or replace the tire and replace the valve stem. Inspect the tire sidewalls for cracking, cuts, bruises and other signs of damage or excessive wear. If internal damage to the tire is suspected, have the tire demounted and inspected in case it needs to be repaired or replaced. For your safety, tires that are damaged or show signs of excessive wear should not be used because they are more likely to blow out or fail.

Improper or inadequate vehicle maintenance can cause tires to wear abnormally. Inspect all your tires, including the spare, frequently, and replace them if one or more of the following conditions exist:

## Tire Wear



When the tread is worn down to one sixteenth of an inch (2 mm), tires must be replaced to help prevent your vehicle from skidding and hydroplaning. Built-in treadwear indicators, or wear bars, which look like narrow strips of smooth rubber across the tread will appear on the tire when the tread is worn down to one sixteenth of an inch (2 mm).

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

## Damage

Periodically inspect the tire treads and sidewalls for damage (such as bulges in the tread or sidewalls, cracks in the tread groove and separation in the tread or sidewall). If damage is observed

# Wheels and Tires

or suspected have the tire inspected by a tire professional. Tires can be damaged during off-road use, so inspection after off-road use is also recommended.

## Age



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



**WARNING:** 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.



**WARNING:** 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.

## Tire Replacement Requirements

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

## Wheels and Tires



**WARNING:** Only use replacement tires and wheels that are the same size, load index, speed rating and type (such as P-metric versus LT-metric or all-season versus all-terrain) as those originally provided by Ford. The recommended tire and wheel size may be found on either the Safety Compliance Certification Label (affixed to either the door hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position), or the Tire Label which is located on the B-Pillar or edge of the driver's door. If this information is not found on these labels, then you should contact your authorized dealer as soon as possible. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of vehicle control, vehicle rollover, personal injury and death.



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



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



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



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

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



# Wheels and Tires

- Stand at a minimum of 12 ft (3.66 m) away from the wheel and tire assembly.
- Use both eye and ear protection.

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

It is recommended that the two front tires or two rear tires generally be replaced as a pair.

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

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

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

## Safety Practices



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



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

## Driving habits have a great deal to do with your tire mileage and safety.

- \*Observe posted speed limits.
- \*Avoid fast starts, stops and turns.
- \*Avoid potholes and objects on the road.
- \*Do not run over curbs or hit the tire against a curb when parking.

## Highway Hazards

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

# Wheels and Tires

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

## Tire and Wheel Alignment

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

Wheel misalignment in the front or the rear can cause uneven and rapid treadwear of your tires and should be corrected by an authorized dealer. Front-wheel drive vehicles and those with an independent rear suspension (if equipped) may require alignment of all four wheels.

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

## Tire Rotation

**Note:** *If your tires show uneven wear ask an authorized dealer to check for and correct any wheel misalignment, tire imbalance or mechanical problem involved before tire rotation.*

**Note:** *Your vehicle may be equipped with a dissimilar spare wheel and tire assembly. A dissimilar spare wheel and tire assembly is defined as a spare wheel and tire assembly that is different in brand, size or appearance from the road tires and wheels. If you have a dissimilar spare wheel and tire assembly it is intended for temporary use only and should not be used in a tire rotation.*

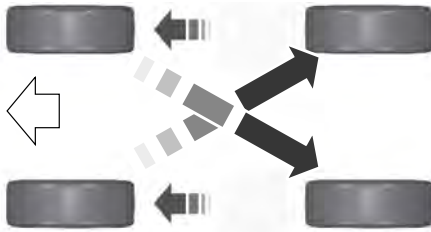
**Note:** *After having your tires rotated, inflation pressure must be checked and adjusted to the vehicle requirements.*

Rotating your tires at the recommended interval (as indicated in the Scheduled Maintenance chapter) will help your tires wear more evenly, providing better tire performance and longer tire life. Sometimes irregular tire wear can be corrected by rotating the tires.

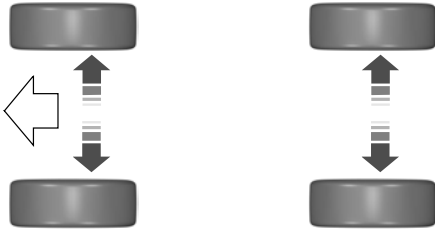
Rear-wheel drive vehicles (front tires on the left side of the diagram).

## Non-directional tires

# Wheels and Tires



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



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## 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 sidewall. 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. Do not place tires near heaters or heating devices used to warm the room where the tires are stored. Do not apply heat or blow heated air directly on the tires. Always inspect the tires after storage periods and before use.

## Mach 1 Handling Package (If Equipped)

### Wheels

Your vehicle has unique wheels matched to the tires. These wheels are more susceptible to damage due to their diameter, width, and low profile tires.

To avoid damage to your wheels:

- Maintain proper tire pressure
- When installing wheels, always torque lug nuts to specification with a torque wrench.
- Inspect your wheels for damage on a regular basis. If a wheel is damaged, replace it immediately.
- In the event that you encounter an abnormally harsh impact, inspect the outer diameter of your wheels, both inside and out, for damage.

# Wheels and Tires

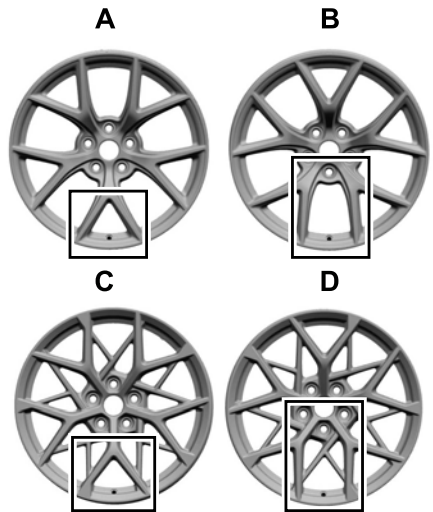
## Tires

Your vehicle has low profile, high performance tires that are designed to optimize the driving dynamics you expect in a Ford vehicle. These tires are not optimized for off-road or winter (snow or

cold weather) performance, and their ride, noise and wear characteristics are different than non-performance tires. Also, because of their lower profile, the tires are more susceptible to damage due to potholes and rough roads.

Variant		Tires	Wheels (inches)
Mach 1	Front	255/40R19	19 x 9.5
	Rear	275/40R19	19 x 10
Mach 1 with handling package	Front	305/30R19	19 x 10.5
	Rear	315/30R19	19 x 11

**Note:** As outlined in the previous table, there are different sized tires and wheels on the front and rear positions. In order to identify that wheels are in their correct position, check the valve hole location as indicated in the following chart:



- A 19 in. x 9.5 in. front wheel, with the valve hole in a smaller window.
- B 19 in. x 10 in. rear wheel, with the valve hole in a larger window.

# Wheels and Tires

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- C 19 in. x 10.5 in. front wheel, with the valve hole in a smaller window.
- D 19 in. x 11 in. rear wheel, with the valve hole in a larger window.

**Note:** For the base 5-star wheel, you can identify the correct wheel size by checking behind the wheel spokes.

To make sure that your tires perform as intended, it is important that you properly maintain your tires:

- Your original equipment tires are optimized for performance in both wet and dry conditions. We do not recommend using the original equipment 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.
- The tires were designed for track use and may exhibit significantly reduced tread life and increased tire noise compared to the standard equipment tires under normal driving conditions. Increasing the front camber settings beyond the factory settings may further accelerate tread wear and induce tire noise.
- For tire pressures, see the placard located on the B-pillar inside the driver door.
- Always maintain your tire pressures according to the tire information placard on the driver door jamb, using an accurate gauge.
- Tire pressures are specified cold and should be checked after the vehicle has been parked for at least three hours. Do not reduce the pressure of warm tires.
- Check your tire pressure often to maintain it properly. Tire pressure can diminish over time and fluctuate with temperature.
- Do not overload your vehicle. Maximum vehicle and axle weights are listed on the tire information placard.
- Extra caution should be taken when operating the vehicle near its maximum load, including assuring proper tire pressure and reducing speeds.
- Extra caution should be taken when operating on rough roads to avoid impacts that could cause tire damage.
- In the event that you encounter an abnormally harsh impact, inspect your tires for damage.
- Inspect your tires for damage on a regular basis. If a tire is damaged, immediately replace it.
- Proper suspension alignment is critical for maximum performance and optimal tire wear. If you notice uneven tire wear, have your alignment checked.
- Rotate tires as recommended in the tire rotation information. See Tire Care, in the Wheels and Tires Chapter of the Owner's Manual.
- Follow the rotation pattern for "Vehicles equipped with different size tires on the front and rear axle".
- When replacing tires, the only way to maintain original performance is to use the original equipment tire. If a different tire is used, it should be the same size, speed rating and load rating and be replaced as a set of four. Never mix tire brands.

# Wheels and Tires

## USING WINTER TIRES



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Inflate the winter tires to the same tire pressures as those listed in the tire pressures table.



**WARNING:** Snow tires must be the same size, load index and speed rating as those originally provided by Ford. Use of any tire or wheel not recommended by Ford can affect the safety and performance of your vehicle, which could result in an increased risk of loss of control, vehicle rollover, personal injury and death. Additionally, the use of non-recommended tires and wheels can cause steering, suspension, axle, transfer case or power transfer unit failure. Follow the Ford recommended tire inflation pressure found on the Safety Compliance Certification Label (on the door hinge pillar, door latch post or the door edge that meets the door latch post, next to the driver seat), or Tire Label on the B-Pillar or the edge of the driver door. Failure to follow the tire pressure recommendations can cause uneven treadwear patterns and adversely affect the way your vehicle handles.

## USING SNOW CHAINS



**WARNING:** Aggressive driving in any road conditions can cause you to lose control of your vehicle increasing the risk of severe personal injury or property damage. The traction control activating is an indication that at least some of the tires have exceeded their ability to grip the road; this may lead to an increased risk of loss of vehicle control, vehicle rollover, personal injury and death. If you experience a severe road event, **slow down**.

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

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

Follow these guidelines when using snow tires and chains:

- When possible, avoid fully loading your vehicle.
- Chains could damage aluminum wheels.
- Use ultra low profile cables, 10 mm or less in dimension as measured on the sidewall of your tire, with 235/55R 17, 235/50R18 and 255/40R19 on the rear axle only.
- Do not use snow chains or cables with 265/40R19, 275/40R19, 305/30R19, 315/30R19, and 265/35R20
- Not all S-class snow chains or cables meet these restrictions. Chains of this size restriction will include a tensioning device.

# Wheels and Tires

- Purchase chains or cables from a manufacturer that clearly labels body to tire dimension restrictions. The snow chains or cables must be mounted in pairs on the front or the rear tires only.
- Do not exceed 30 mph (50 km/h) if recommended by the chain manufacturer while using snow chains.
- Install cables securely, verifying that the cables do not touch any wiring, brake lines or fuel 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, please contact your authorized dealer.

## TIRE PRESSURE MONITORING SYSTEM



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

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

**Note:** *If the tire pressure monitoring system sensor becomes damaged, it will not function.*



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires).

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and could affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

# Wheels and Tires

When the malfunction indicator is illuminated, the system will not be able to detect or signal low tire pressure as intended. TPMS malfunctions could occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

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

1. This device will not cause harmful interference, and
2. This device must accept any interference received, including interference that could cause undesired operation.



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

## Changing Tires With a Tire Pressure Monitoring System



**Note:** Each road tire is equipped with a tire pressure sensor located inside the wheel and tire assembly cavity. The pressure sensor is attached to the valve stem. The pressure sensor is covered by the tire and is not visible unless the tire is removed. Take care when changing the tire to avoid damaging the sensor.

You should always have your tires serviced by an authorized dealer.

Check the tire pressure periodically (at least monthly) using an accurate tire gauge. See **When Inflating Your Tires** in this chapter.

## Understanding Your Tire Pressure Monitoring System





# Wheels and Tires

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The tire pressure monitoring system measures pressure in your road tires and sends the tire pressure readings to your vehicle. You can view the tire pressure readings through the information display. See **General Information** (page 99). The low tire pressure warning light will turn on if the tire pressure is significantly low. Once the light is illuminated, your tires are under-inflated and need to be inflated to the manufacturer's recommended tire pressure. Even if the light turns on and a short time later turns off, your tire pressure still needs to be checked.

## **When Your Temporary Spare Tire is Installed**

When one of your road tires needs to be replaced with the temporary spare, the system will continue to identify an issue to remind you that the damaged road wheel and tire assembly needs to be repaired and put back on your vehicle.

To restore the full function of the tire pressure monitoring system, have the damaged road wheel and tire assembly repaired and remounted on your vehicle.

## **When You Believe Your System is Not Operating Properly**

The main function of the tire pressure monitoring system is to warn you when your tires need air. It can also warn you in the event the system is no longer capable of functioning as intended. See the following chart for information concerning your tire pressure monitoring system:

# Wheels and Tires

Low tire pressure warning light	Possible cause	Customer action required
Solid warning light	Tire(s) under-inflated	Make sure tires are at the proper pressure. See Inflating your tires in this chapter. After inflating your tires to the manufacturer's recommended pressure as shown on the Tire Label (located on the edge of driver's door or the B-Pillar), the vehicle must be driven for at least two minutes over 20 mph (32 km/h) before the light turns off.
	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When Your Temporary Spare Tire is Installed</b> in this section.
	TPMS malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.
Flashing warning light	Spare tire in use	Repair the damaged road wheel and tire assembly and reinstall it on the vehicle to restore system function. For a description on how the system functions, see <b>When Your Temporary Spare Tire is Installed</b> in this section.
	TPMS malfunction	If the tires are properly inflated and the spare tire is not in use but the light remains on, contact your authorized dealer as soon as possible.

## When Inflating Your Tires



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

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

It could take up to two minutes of driving over 20 mph (32 km/h) for the light to turn off after you have filled your tires to the recommended inflation pressure.

# Wheels and Tires

## How Temperature Affects Your Tire Pressure

The tire pressure monitoring system monitors tire pressure in each pneumatic tire. While driving in a normal manner, a typical passenger tire inflation pressure could increase about 2–4 psi (14–28 kPa) from a cold start situation. If the vehicle is stationary overnight with the outside temperature significantly lower than the daytime temperature, the tire pressure could decrease about 3 psi (21 kPa) for a drop of 30°F (17°C) in ambient temperature. This lower pressure value could be detected by the tire pressure monitoring system as being significantly lower than the recommended inflation pressure and activate the system warning light for low tire pressure. If the low tire pressure warning light is on, visually check each tire to verify that no tire is flat. If one or more tires are flat, repair as necessary. Check the air pressure in the road tires. If any tire is under-inflated, carefully drive the vehicle to the nearest location where air can be added to the tires. Inflate all the tires to the recommended inflation pressure.

## CHANGING A ROAD WHEEL (IF EQUIPPED)



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

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

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

If you get a flat tire when driving, do not apply the brake heavily. Instead, gradually decrease your speed. Hold the steering wheel firmly and slowly move to a safe place on the side of the road.

Have a flat serviced by an authorized dealer in order to prevent damage to the tire pressure monitoring system sensors. See **Tire Pressure Monitoring System** (page 324). Replace the spare tire with a road tire as soon as possible. During repairing or replacing of the flat tire, have the authorized dealer inspect the tire pressure monitoring system sensor for damage.

## Dissimilar Spare Wheel and Tire Assembly Information



**WARNING:** Failure to follow these guidelines could result in an increased risk of loss of vehicle control, injury or death.

If you have a dissimilar spare wheel and tire, then it is intended for temporary use only. This means that if you need to use it, you should replace it as soon as possible with a road wheel and tire assembly that is the same size and type as the road tires and wheels that were originally provided by Ford. If the dissimilar spare tire or wheel is damaged, it should be replaced rather than repaired.

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

# Wheels and Tires

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

**2. Full-size dissimilar spare with label on wheel:** This spare tire has a label on the wheel that states: THIS WHEEL AND TIRE ASSEMBLY FOR TEMPORARY USE ONLY.

When driving with one of the dissimilar spare tires listed above, do not:

- Exceed 50 mph (80 km/h).
- Load the vehicle beyond maximum vehicle load rating listed on the Safety Compliance Label.
- Use snow chains on the end of the vehicle with the dissimilar spare tire.
- Use more than one dissimilar spare tire at a time.
- Use commercial car washing equipment.
- Try to repair the dissimilar spare tire.

Use of one of the dissimilar spare tires listed above at any one wheel location can lead to impairment of the following:

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

**3. Full-size dissimilar spare without label on wheel**

When driving with the full-size dissimilar spare wheel and tire assembly, do not:

- Exceed 75 mph (120 km/h).
- Use more than one dissimilar spare wheel and tire assembly at a time.

- Use commercial car washing equipment.
- Use snow chains on the end of the vehicle with the dissimilar spare wheel and tire assembly.

The usage of a full-size dissimilar spare wheel and tire assembly can lead to impairment of the following:

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

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

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

# Wheels and Tires

**WARNING:** Do not attempt to change a tire on the side of the vehicle close to moving traffic. Pull far enough off the road to avoid the danger of being hit when operating the jack or changing the wheel.

**WARNING:** Park your vehicle so that you do not obstruct the flow of traffic or place yourself in any danger and set up a warning triangle.

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

**WARNING:** Check that the vehicle jack is not damaged or deformed and the thread is lubricated and clean.

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

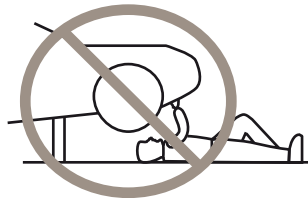
**WARNING:** Use only the specified jacking points. If you use other positions, you may damage the body, steering, suspension, engine, braking system or the fuel lines.

**WARNING:** Never place anything between the vehicle jack and your vehicle.

**WARNING:** Never place anything between the vehicle jack and the ground.

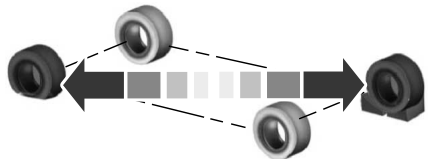
**WARNING:** Do not work on your vehicle when the jack is the only support as your vehicle could slip off the jack. Failure to follow this instruction could result in personal injury or death.

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



**Note:** No maintenance or additional lubrication of your jack is required over the service life of your vehicle.

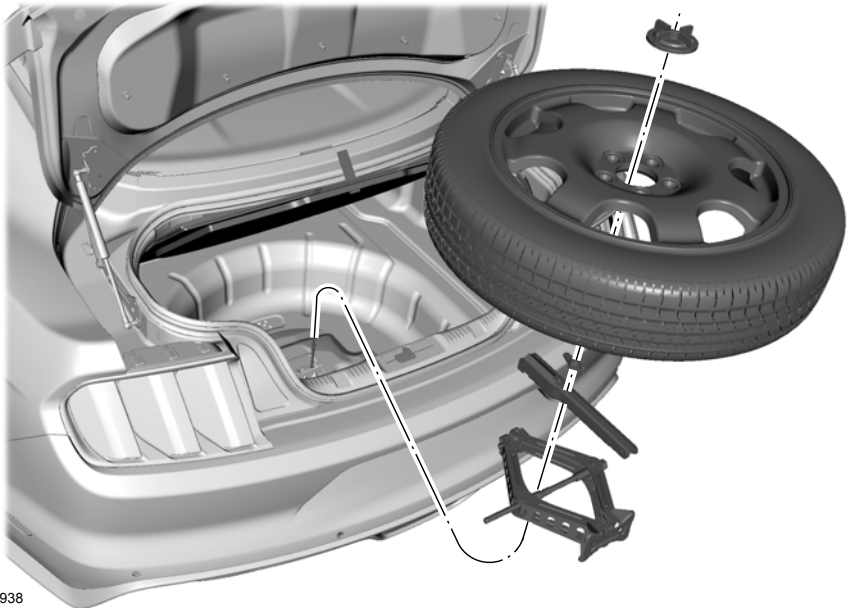
1. Park on a level surface, set the parking brake and activate the hazard flashers.
2. Place the transmission in park (P) and turn the engine off. For vehicles with a manual transmission, place the transmission in reverse (R) after the engine is turned off.



# Wheels and Tires

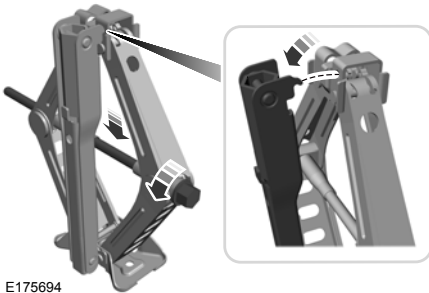
3. Block both the front and rear of the wheel diagonally opposite the flat tire.

For example, if the left front tire is flat, block the right rear wheel.

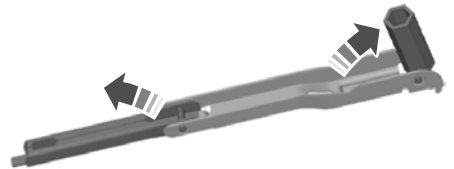


E174938

4. Remove the lug wrench, spare tire and jack.
5. Remove the center ornament from the wheel if required to access the lug nuts.
6. To remove the wrench from the jack, turn the hex nut on the jack counterclockwise. This lowers the jack and loosens the mechanical lock.
7. Unfold the wrench for use.

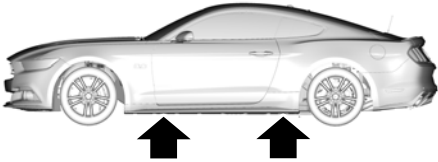


E175694



# Wheels and Tires

- Loosen each wheel lug nut one-half turn counterclockwise but do not remove them until the wheel is raised off the ground.



E176084

**Note:** Jack at the specified locations to avoid damage to the vehicle.

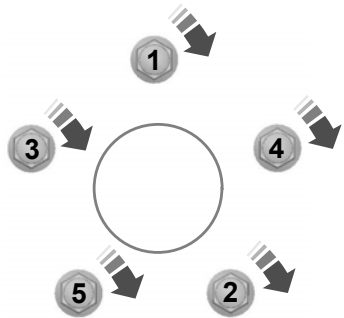
- The vehicle jacking points are shown here, and can be identified by the triangle markings on the vehicle. Details are depicted on the warning label on the jack.



E174939

- 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.

- Remove the lug nuts with the lug wrench.
- Replace the flat tire with the spare tire, making sure the valve stem is facing outward. Reinstall lug nuts until the wheel is snug against the hub. Do not fully tighten the lug nuts until the wheel has been lowered. If you are using the temporary tire, the lug nut washers do not appear to be flush with the rim. This is normal only when using the temporary spare tire.
- Lower the wheel by turning the jack handle counterclockwise.



- Remove the jack and fully tighten the lug nuts in the order shown. See **Technical Specifications** (page 334).
- 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.

# Wheels and Tires



E176165

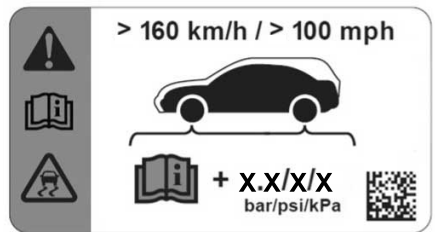
- Put the flat tire, wheel ornament, jack and lug wrench away. Make sure the jack is fastened so it does not rattle when you drive.
- Unblock the wheel.

## DRIVING AT HIGH SPEED



**WARNING:** When driving at high speeds, adjust the tire pressures for the front and rear tires according to the amount shown on the label located on the drivers side B-pillar. Failure to follow this instruction could result in serious injury or death.

## Tire pressure - Speeds greater than 100 mph (160 km/h)



E184089

Your tires could require additional inflation pressure for operation at speeds greater than 100 mph (160 km/h). If this label is present on your vehicle, you must adjust the tire pressure accordingly.



# Wheels and Tires

## TECHNICAL SPECIFICATIONS

### Wheel Lug Nut Torque Specifications



**WARNING:** When you install a wheel, always remove any corrosion, dirt or foreign materials present on the mounting surfaces of the wheel or the surface of the wheel hub, brake drum or brake disc that contacts the wheel. Make sure to secure any fasteners that attach the rotor to the hub so they do not interfere with the mounting surfaces of the wheel. Installing wheels without correct metal-to-metal contact at the wheel mounting surfaces can cause the wheel nuts to loosen and the wheel to come off while your vehicle is in motion, resulting in loss of vehicle control, personal injury or death.

Bolt size	lb.ft (Nm)
M14 X 1.5	150 (204)

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

Retighten the lug nuts to the specified torque within 100 mi (160 km) after any wheel disturbance (such as tire rotation, changing a flat tire, wheel removal).



A Wheel pilot bore

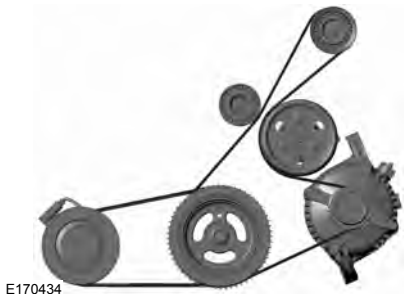
Inspect the wheel pilot bore and mounting surface prior to installation. Remove any visible corrosion or loose particles.

# Capacities and Specifications

## ENGINE SPECIFICATIONS - 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.	0.028 in (0.7 mm) - 0.031 in (0.8 mm)
Compression ratio - Base.	9.5:1
Compression ratio - High Output.	9.37:1

## Drivebelt Routing



E170434

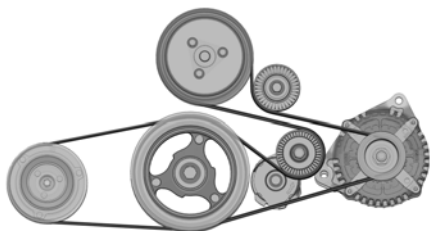
## ENGINE SPECIFICATIONS - 5.0L, MACH 1

Item	Description
Configuration.	90 degree V8.
Bore x stroke.	3.66 in (93 mm) bore x 3.65 in (92.7 mm) stroke.
Displacement.	307 in <sup>3</sup> (5,038 cm <sup>3</sup> )
Compression ratio.	12.0:1
Spark plug gap.	0.049 in (1.25 mm) - 0.053 in (1.35 mm)
Horsepower.	480 hp (358 kW) @ 7000 RPM

# Capacities and Specifications

Item	Description
Torque.	420 lb.ft (569 Nm) @ 4600 RPM
Redline.	7500 RPM
Top speed with manual transmission without gurney flap.	168 mph (270 km/h)
Top speed with automatic transmission.	155 mph (249 km/h) Electronically limited.
Valvetrain.	Dual overhead cams - roller finger followers.
Ignition.	Coil on plug.
Throttle body.	3.4 in (87 mm)
Pistons.	Cast aluminum.
Crankshaft.	Forged steel cross-plane.
Connecting rods.	Forged steel.
Induction.	Naturally aspirated cold air induction.
Exhaust system.	High-flow dual exhaust with H-pipe and active valve mufflers.

## Drivebelt Routing



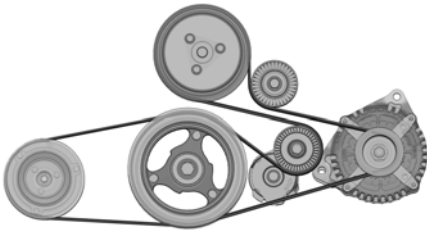
E198573

# Capacities and Specifications

## 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

## Drivebelt Routing



E198573

## BRAKE SYSTEM SPECIFICATIONS - MACH 1

### Front

Description	Specification
Rotor diameter.	14.96 in (380 mm)
Rotor width.	1.34 in (34 mm)
Rotor swept area.	81.18 in <sup>2</sup> (523.76 cm <sup>2</sup> )
Caliper piston diameter.	1.42 in (36 mm)

# Capacities and Specifications

---

## Rear

Description	Specification
Rotor diameter.	12.99 in (330 mm)
Rotor width.	0.98 in (25 mm)
Rotor swept area.	56.04 in <sup>2</sup> (361.55 cm <sup>2</sup> )
Caliper piston diameter.	1.77 in (45 mm)

# Capacities and Specifications

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## SUSPENSION SPECIFICATIONS - MACH 1

<b>Item</b>	<b>Standard</b>	<b>With Handling Package</b>
Front suspension.	MacPherson strut, double ball-joint	MacPherson strut, double ball-joint
Rear suspension.	Multi-link	Multi-link
Front spring rate.	34 N/mm (194 lbf/in)	37 N/mm (211 lbf/in)
Rear spring rate.	115 N/mm (657 lbf/in)	130 N/mm (742 lbf/in)
Front stabilizer bar.	33.3 mm diameter x 5.0 mm wall (1.31 x 0.20 in)	33.3 mm diameter x 5.0 mm wall (1.31 x 0.20 in)
Rear stabilizer bar.	24 mm diameter x 3.6 mm wall (0.95 x 0.14 in)	24 mm (0.95 in) diameter - solid bar

## Capacities and Specifications

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### MOTORCRAFT PARTS - 2.3L ECOBOOST™

Component	Part Number
Air filter element.	FA-1918
Oil filter.	FL-910-S
Battery.	BXT-96R-590
Spark plugs.	SP-550
Transmission filter.	FT-202
Cabin air filter.	FP-78
Windshield wiper blade.	WW-1964 (passenger side) WW-2160 (driver side)

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

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

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 441).

## Capacities and Specifications

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### MOTORCRAFT PARTS - 5.0L

Component	Part Number
Air filter element.	FA-1918
Oil filter.	FL-500-S
Battery.	BXT-96R-590
Spark plugs.	SP-551
Transmission filter.	FT-202
Cabin air filter.	FP-78
Windshield wiper blade.	WW-1964 (passenger side) WW-2160 (driver side)

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

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

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 441).



## Capacities and Specifications

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### MOTORCRAFT PARTS - 5.0L, BULLITT/MACH 1

Component	Part Number
Air filter element.	FA-1922
Oil filter.	FL-500-S
Battery.	BXT-96R-590
Spark plugs.	SP-551
Transmission filter.	FT-202
Cabin air filter.	FP-78
Windshield wiper blade.	WW-1964 (passenger side) WW-2160 (driver side)

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

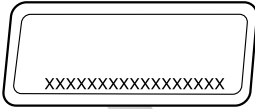
If a Motorcraft oil filter is not available, use an oil filter that meets industry performance specification SAE/USCAR-36.

For spark plug replacement, contact an authorized dealer. Replace the spark plugs at the appropriate intervals. See **Scheduled Maintenance** (page 441).

# Capacities and Specifications

## VEHICLE IDENTIFICATION NUMBER

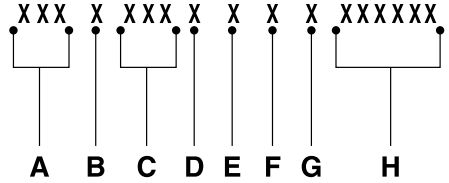
The vehicle identification number is located on the left-hand side of the instrument panel.



E142476

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

The Vehicle Identification Number contains the following information:



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

## CAPACITIES AND SPECIFICATIONS - 2.3L ECOBOOST™

Use oil and fluid that meets the defined specification and viscosity grade.

If you do not use oil and fluid that meets the defined specification and viscosity grade, it could result in:

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

# Capacities and Specifications

- Reduced fuel economy.
- Reduced brake performance.

## Air Conditioning System



**WARNING:** The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening the air conditioning refrigerant system can cause personal injury.

## Capacities

Variant	Refrigerant	Refrigerant Oil
All.	19 oz (0.539 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

## Automatic Transmission

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

## Capacities

Variant	Quantity
All.	12.7 qt (12 L) <sup>1</sup>

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

# Capacities and Specifications

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## Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid(U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft®(Canada) XT-12-QULV(U.S. & Canada)	WSS-M2C949-A, MERCON® ULV

## Manual Transmission

### Capacities

Variant	Quantity
All.	2.7 qt (2.6 L)

## Materials

Name	Specification
Motorcraft® Dual Clutch Transmission Fluid(U.S.) Motorcraft® Dual Clutch Transmission Fluid / Huile pour boîtes embrayage double Motorcraft®(Canada) XT-11-QDC(U.S. & Canada)	WSS-M2C200-D2

## Engine Coolant

### Capacities

Variant	Quantity
All.	9.5 qt (8.96 L)

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/ Coolant(U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft®(Canada) VC-13DL-G(U.S.) CVC-13DL-G(Canada)	WSS-M97B57-A2

## Engine Oil 2.3L EcoBoost Base



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

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SP requirements and display the API Certification Mark for gasoline engines.

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

## Capacities

Variant	Including the Oil Filter
All.	6.0 qt (5.67 L)

## Materials

Name	Specification
Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil(U.S.) Motorcraft® SAE 5W-30 Super Premium Motor Oil / Huile moteur de très haute qualité SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP(U.S.) CXO-5W30-LSP6(Canada)	WSS-M2C961-A1

# Capacities and Specifications

## Motor oil for track use:

### Materials

Name	Specification
Engine Oil - SAE 0W-30 - Synthetic Blend	WSS-M2C963-A1

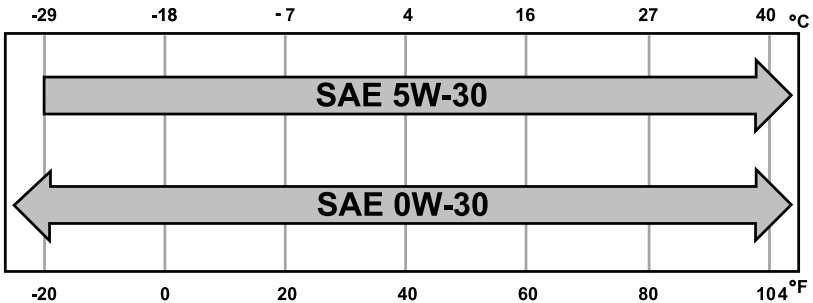
**Note:** Oil must meet specification WSS-M2C931-C or use SAE 5W-50 oil that meet API SN requirements.

### 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-M2C953-B1



# Capacities and Specifications

## Engine Oil 2.3L EcoBoost High Output



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

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SN requirements.

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

### Capacities

Variant	Including the Oil Filter
All.	6.0 qt (5.67 L)

### Materials

Name	Specification
Motorcraft® SAE 5W-50 Full Synthetic Motor Oil (U.S.) Motorcraft® SAE 5W-50 Full Synthetic Motor Oil / Huile moteur synthétique SAE 5W-50 Motorcraft® (Canada) XO-5W50-QGT (U.S. & Canada)	WSS-M2C931-C

**Note:** Oil must meet specification WSS-M2C931-C or use SAE 5W-50 oil that meet API SN requirements.

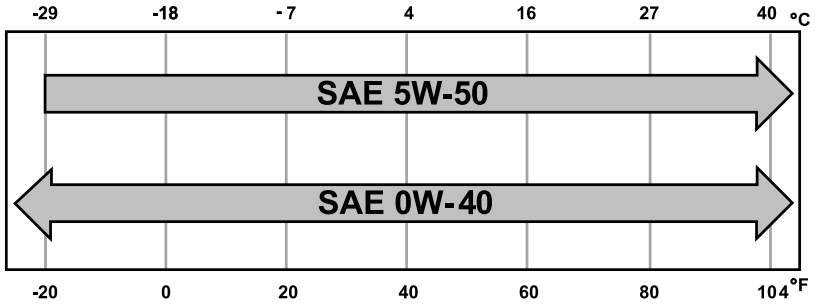
### Alternative Engine Oil for Extremely Cold Climates

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-40	WSS-M2C937-A

# Capacities and Specifications



## Fuel Tank

### Capacities

Variant	Quantity
All.	15.5 gal (58.5 L)

## Grease

### Materials

Name	Specification
Motorcraft® Multi-Purpose Grease Spray (U.S.) Motorcraft® Multi-Purpose Grease Spray / Graisse tout usage en aérosol Motorcraft® (Canada) XL-5-A (U.S. & Canada)	ESB-MIC93-B



# Capacities and Specifications

## Hydraulic Brake System

**Note:** We recommend using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

## 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

## Locks

### Materials

Name	Specification
Motorcraft® Penetrating and Lock Lubricant(U.S.) Motorcraft® Penetrating Fluid / Liquide dégrissant Motorcraft®(Canada) XL-1(U.S.) CXC-51-A(Canada)	-

## Rear Axle

### Capacities

Variant	Quantity
All.	1.6 qt (1.5 L) <sup>1</sup>

<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.

# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant (U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoides SAE 75W-85 Motorcraft® (Canada) XY-75W85-QL (U.S. & Canada)	WSS-M2C942-A
Motorcraft® Additive Friction Modifier (U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft® (Canada) XL-3 (U.S.) CXL-3 (Canada)	EST-M2C118-A

## Washer Reservoir

### Capacities

Variant	Quantity
All.	Fill as required.

## Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant (U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft® (Canada) ZC-32-B2 (U.S.) CXC-37-F/M (Canada)	WSS-M14P19-A

## CAPACITIES AND SPECIFICATIONS - 5.0L

Use oil and fluid that meets the defined specification and viscosity grade.

If you do not use oil and fluid that meets the defined specification and viscosity grade, it could result in:

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

# Capacities and Specifications

- Reduced engine performance.
- Reduced fuel economy.
- Reduced brake performance.

## Air Conditioning System



**WARNING:** The air conditioning refrigerant system contains refrigerant under high pressure. Only qualified personnel should service the air conditioning refrigerant system. Opening the air conditioning refrigerant system can cause personal injury.

## Capacities

Variant	Refrigerant	Refrigerant Oil
All.	19 oz (0.539 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

## Automatic Transmission

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

# Capacities and Specifications

## Capacities

Variant	Quantity
Base.	13.4 qt (12.7 L) <sup>1</sup>
Mach 1.	13.8 qt (13.1 L) <sup>1</sup>

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

## Materials

Name	Specification
Motorcraft® MERCON® ULV Automatic Transmission Fluid (U.S.) Motorcraft® MERCON® ULV Automatic Transmission Fluid / MERCON® ULV huile pour boîtes automatique Motorcraft® (Canada) XT-12-QULV (U.S. & Canada)	WSS-M2C949-A, MERCON® ULV

## Manual Transmission - MT82

### Capacities

Variant	Quantity
All.	2.7 qt (2.6 L)

### Materials

Name	Specification
Motorcraft® Dual Clutch Transmission Fluid (U.S.) Motorcraft® Dual Clutch Transmission Fluid / Huile pour boîtes embrayage double Motorcraft® (Canada) XT-11-QDC (U.S. & Canada)	WSS-M2C200-D2

# Capacities and Specifications

## Manual Transmission - 3160

### Capacities

Variant	Quantity
Mach 1.	3.3 qt (3.1 L)

### Materials

Name	Specification
Motorcraft® MERCON® LV Automatic Transmission Fluid (U.S.) Motorcraft® MERCON® LV Automatic Transmission Fluid / Huile pour boîte automatique MERCON® LV Motorcraft® (Canada) XT-10-QLVC (U.S.) CXT-10-LV6 (Canada)	WSS-M2C938-AMERCON® LV,

## Engine Coolant

### Capacities

Variant	Quantity
With Track Pack.	15.2 qt (14.4 L)
Without Track Pack.	13.6 qt (12.88 L)

### Materials

Name	Specification
Motorcraft® Yellow Prediluted Antifreeze/Coolant (U.S.) Motorcraft® Yellow Prediluted Antifreeze/Coolant / Antigel/liquide de refroidissement prédilué jaune Motorcraft® (Canada) VC-13DL-G (U.S.) CVC-13DL-G (Canada)	WSS-M97B57-A2

# Capacities and Specifications

## Engine Oil



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

We recommend Motorcraft® motor oil for your vehicle. If Motorcraft® oil is not available, use motor oils of the recommended viscosity grade that meet API SP requirements and display the API Certification Mark for gasoline engines.

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

## Capacities

Variant	Including the Oil Filter
All.	10.0 qt (9.5 L)

## Materials

Name	Specification
Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil(U.S.) Motorcraft® SAE 5W-30 Super Premium Motor Oil / Huile moteur de très haute qualité SAE 5W-30 Motorcraft®(Canada) XO-5W30-Q1SP(U.S.) CXO-5W30-LSP6(Canada)	WSS-M2C961-A1

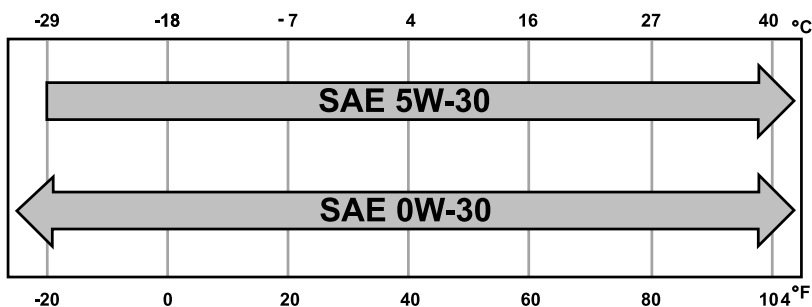
## Alternative Engine Oil for Extremely Cold Climates

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

# Capacities and Specifications

## Materials

Name	Specification
Engine Oil - SAE 0W-30 - Synthetic Blend	WSS-M2C963-A1



## Fuel Tank

### Capacities

Variant	Quantity
All.	16.0 gal (60.55 L)

## Grease

### Materials

Name	Specification
Motorcraft® Multi-Purpose Grease Spray (U.S.) Motorcraft® Multi-Purpose Grease Spray / Graisse tout usage en aérosol Motorcraft® (Canada) XL-5-A (U.S. & Canada)	ESB-MIC93-B

# Capacities and Specifications

## Hydraulic Brake System

**Note:** We recommend using DOT 4 Low Viscosity (LV) High Performance Brake Fluid or equivalent meeting WSS-M6C65-A2. Use of any fluid other than the recommended fluid could cause reduced brake performance and not meet our performance standards. Keep brake fluid clean and dry. Contamination with dirt, water, petroleum products or other materials could result in brake system damage and possible failure.

## 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

## Locks

### Materials

Name	Specification
Motorcraft® Penetrating and Lock Lubricant(U.S.) Motorcraft® Penetrating Fluid / Liquide dégrissant Motorcraft®(Canada) XL-1(U.S.) CXC-51-A(Canada)	-

## Rear Axle

### Capacities

Variant	Quantity
All.	1.6 qt (1.5 L) <sup>1</sup>

<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.



# Capacities and Specifications

## Materials

Name	Specification
Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant(U.S.) Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / Huile synthétique de haute qualité pour engrenages hypoides SAE 75W-85 Motorcraft®(Canada) XY-75W85-QL(U.S. & Canada)	WSS-M2C942-A
Motorcraft® Additive Friction Modifier(U.S.) Motorcraft® Additive Friction Modifier / Additif modificateur de friction Motorcraft®(Canada) XL-3(U.S.) CXL-3(Canada)	EST-M2C118-A

## Washer Reservoir

### Capacities

Variant	Quantity
All.	Fill as required.

## Materials

Name	Specification
Motorcraft® Premium Windshield Wash Concentrate with Bitterant(U.S.) Motorcraft® Premium Quality Windshield Washer Fluid / Liquide lave-glace de haute qualité Motorcraft®(Canada) ZC-32-B2(U.S.) CXC-37-F/M(Canada)	WSS-M14P19-A

## Capacities and Specifications

### BULB SPECIFICATION CHART

Replacement bulbs are specified in the chart below. Headlamp bulbs must be marked with an authorized "D.O.T." for North America and an "E" for Europe to

make sure lamp performance, light brightness and pattern and safe visibility. The correct bulbs do not damage the lamp assembly or void the lamp assembly warranty and provide quality bulb illumination time.

Function	Trade name
Headlamps. <sup>1</sup>	LED
Front park and direction indicators. <sup>1</sup>	LED
Front side marker. <sup>1</sup>	LED
Front fog lamp. <sup>1</sup>	LED
Rear lamp, brake lamp and direction indicator lamp. <sup>1</sup>	LED
Rear side marker.	194
High-mount brake lamp. <sup>1</sup>	LED
Backup lamp.	3156 or 3157
License plate lamp. <sup>1</sup>	LED
Dome and map lamp.	W5W
Glove box.	T-3
Cargo lamp. <sup>1</sup>	LED
Daytime running lamp. <sup>1</sup>	LED

<sup>1</sup>Contact an authorized dealer to replace the bulb.

To replace all instrument panel lights, contact an authorized dealer.

# Connected Vehicle

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## 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

1. Press **Settings**.
2. Press **FordPass Connect**.
3. Press **Connectivity Settings**.
4. Switch connectivity features 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.
4. Select the option for vehicle details.
5. Select the option to activate your vehicle.
6. Make sure that the name on the screen matches the name shown in your FordPass account.
7. Confirm that FordPass account is connected to the modem.

## CONNECTING THE VEHICLE TO A WI-FI NETWORK

1. Press **Settings**.
2. Press **Wi-Fi**.
3. Switch **Wi-Fi** on.
4. Press **View Available Networks**.
5. Select an available Wi-Fi network.

**Note:** Enter the network password to connect to a secure network.

# Connected Vehicle

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## CONNECTED VEHICLE – TROUBLESHOOTING - VEHICLES WITH: MODEM

<b>Symptom</b>	<b>Possible Cause and Resolution</b>
I cannot confirm the connection of my FordPass account to the modem.	<ul style="list-style-type: none"><li>- Modem is not enabled.<ul style="list-style-type: none"><li>• Switch connectivity features on.</li></ul></li><li>- Weak network signal.<ul style="list-style-type: none"><li>• Move your vehicle closer to a place where the network signal is not obstructed.</li></ul></li></ul>

## Connected Vehicle

### CONNECTED VEHICLE – TROUBLESHOOTING - VEHICLES WITH: SYNC 3

Symptom	Possible Cause and Resolution
I cannot connect to a Wi-Fi network.	<ul style="list-style-type: none"> <li>– Password error.                             <ul style="list-style-type: none"> <li>• Enter the correct network password.</li> </ul> </li> <li>– Weak network signal.                             <ul style="list-style-type: none"> <li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li> </ul> </li> <li>– Multiple access points in range with the same SSID.                             <ul style="list-style-type: none"> <li>• Use a unique name for your SSID. Do not use the default name unless it contains a unique identifier, for example as part of the MAC address.</li> </ul> </li> </ul>
The Wi-Fi connection disconnects after successful connection.	<ul style="list-style-type: none"> <li>– Weak network signal.                             <ul style="list-style-type: none"> <li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li> </ul> </li> </ul>
I am close to a Wi-Fi hotspot but the network signal strength is weak.	<ul style="list-style-type: none"> <li>– Obstructed network signal.                             <ul style="list-style-type: none"> <li>• If your vehicle has a heated windshield, position your vehicle so that the windshield is not facing the Wi-Fi hotspot.</li> <li>• 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 hotspot or open the windows that are facing the hotspot.</li> <li>• If your vehicle has metallic tinting on the windows and the windshield, open the windows that are facing the hotspot.</li> <li>• If your vehicle is in a garage and you have the garage door closed, open the garage door.</li> </ul> </li> </ul>
I cannot see a network in the list of available networks that I expect to see.	<ul style="list-style-type: none"> <li>– Hidden network.                             <ul style="list-style-type: none"> <li>• Make the network visible and try again.</li> </ul> </li> </ul>

## Connected Vehicle

<b>Symptom</b>	<b>Possible Cause and Resolution</b>
I cannot see the Wi-Fi hotspot name when I search for Wi-Fi networks on my cell phone or other device.	<ul style="list-style-type: none"><li>– System limitation.<ul style="list-style-type: none"><li>• Make sure Wi-Fi hotspot visibility is on.</li><li>• The system does not provide a Wi-Fi hotspot at this time.</li></ul></li></ul>
Software downloads take too long.	<ul style="list-style-type: none"><li>– Weak network signal.<ul style="list-style-type: none"><li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li></ul></li><li>– Wi-Fi hotspot in high demand or has a slow Internet connection.<ul style="list-style-type: none"><li>• Use a more reliable Wi-Fi hotspot.</li></ul></li></ul>
The system seems to connect to a Wi-Fi network and the signal strength is excellent but the software does not update.	<ul style="list-style-type: none"><li>– No software update available.</li><li>– Wi-Fi network requires a subscription or acceptance of terms and conditions.<ul style="list-style-type: none"><li>• Test the connection using another device. If the network requires a subscription or acceptance of terms and conditions, contact the network service provider.</li></ul></li></ul>

# 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 **FordPass Connect**.
2. Press **Vehicle Hotspot**.

**Note:** The vehicle hotspot default setting is on.

3. Press **Settings**.
4. Press **Wi-Fi visibility**.

**Note:** The Wi-Fi Visibility default setting is on.

## Finding the Wi-Fi Hotspot Name and Password



Select the settings option on the feature bar.

1. Press **FordPass Connect**.
2. Press **Vehicle Hotspot**.
3. Press **Settings**.

**Note:** The SSID is the hotspot name.

4. Press **View Password**.

## Connecting a Device to the Wi-Fi Hotspot

1. 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 master 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 **FordPass Connect**.
2. Press **Vehicle Hotspot**.
3. Press **Settings**.
4. Press **Edit**.
5. Press **Change SSID Name**.
6. Enter your required SSID.
7. Press **Done**.
8. Press **Change Password**.
9. Enter your required password.
10. Press **Done**.

# Audio System

## GENERAL INFORMATION



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any

hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

## Radio Frequencies and Reception Factors

**Note:** *Listening to loud audio for long periods of time could damage your hearing.*

Radio Reception Factors	
<b>Distance and strength</b>	The further you travel from an AM or FM station, the weaker the signal and the weaker the reception.
<b>Terrain</b>	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with the reception.
<b>Station overload</b>	When you pass a ground-based broadcast repeating tower, a stronger signal may overtake a weaker one and result in the audio system muting.

## AUDIO UNIT - VEHICLES WITH: 4.2 INCH INFORMATION AND ENTERTAINMENT DISPLAY SCREEN



**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.



E287197



# Audio System

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

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

## Accessing the Apps Menu



Press and release the button to access the apps menu. Follow the on-screen prompts to make your selection.

## Accessing the Clock Settings



Press and release the button to access the clock setting. Use the center arrow controls to change the hours and minutes.

## Accessing the Media Source Menu



Press and release to open the media source menu.

You can press this multiple times to change to a SYNC-Media device or scroll through the media sources using the arrow buttons. Press **OK** to select a source.

## Accessing the Phone Features



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

## Accessing the Settings Menu



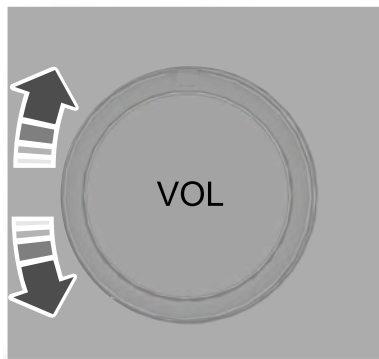
Press and release the button to access the settings menu. Follow the on-screen prompts to make your selection.

## Accessing the Sound Settings



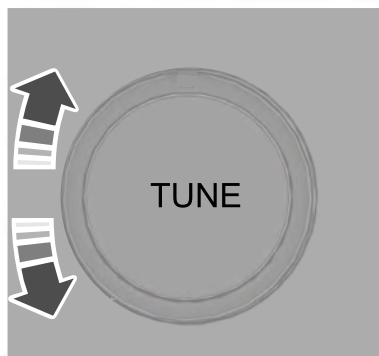
Press and release the button to access settings for Treble, Midrange, Bass, Fade and Balance.

## Adjusting the Volume



Turn to adjust the volume.

## Changing Radio Stations




In radio mode, turn to search through the radio frequency band.


# Audio System

In satellite radio mode, turn to find the previous or next available satellite radio station.


## Listening to the Radio

 Press and release to listen to the radio or change radio stations.


## Muting the Audio

 Press and release the button to mute the playing audio.


## Playing or Pausing Media

 Press and release the button to either play or pause the audio.

## Switching the Audio Unit On and Off


 Press and release the button.

## Switching the Display On and Off

 Press and release the button.

## Using the Display Control

Use the up and down arrow buttons to select the various settings. When you make your selection, press the left and right arrow buttons to change the settings.

 Press and release to confirm a selection.

## Using the Number Block

In radio mode, store and recall your favorite radio stations. To store a favorite station press and hold until the sound returns. In phone mode, enter a phone number.


## Using Seek, Fast Forward and Reverse



In radio mode, select a frequency band and press and release either button. The system stops at the first station it finds in that direction.

In satellite radio mode, press and release to select the next or previous satellite radio station. If you select a specific category (such as jazz, rock or news), press to find the next or previous station in the category you select.

## AUDIO UNIT - VEHICLES WITH: 8 INCH INFORMATION AND ENTERTAINMENT DISPLAY SCREEN

 **WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

# Audio System



E287199

**Note:** Depending on your vehicle option package, the controls may look different from what you see here.

**Note:** The touchscreen system controls most of the audio features.

**Note:** Some features, such as satellite radio, may not be available in your location. Check with an authorized dealer.

## Accessing the Sound Settings

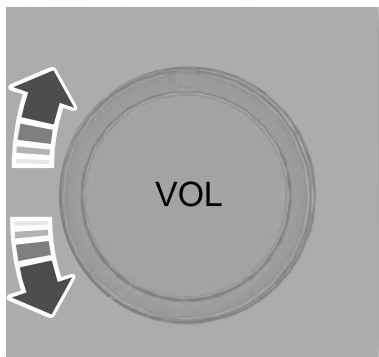


OR



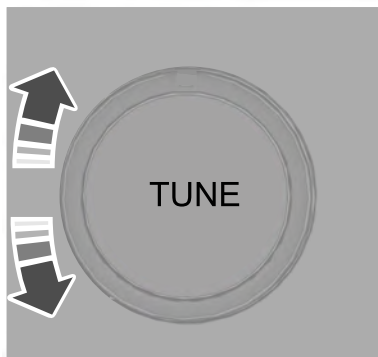
Press and release to access settings for Treble, Midrange, Bass, Fade or Balance.

## Adjusting the Volume



Turn to adjust the volume.

## Changing Radio Stations



In radio mode, turn to search through the radio frequency band. In satellite radio mode, turn to find the previous or next available satellite radio station.

## Ejecting the CD (If Equipped)



Press and release the button to eject a CD.

## Inserting a CD (If Equipped)

Insert a CD into the CD slot.

## Switching the Audio Unit On and Off



Press and release the button.

## Playing or Pausing Media



Press and release the button to either play or pause the audio.

# Audio System

## Using Seek, Fast Forward and Reverse



In radio mode, select a frequency band and press and release either button. The system stops at the first station it finds in that direction.

In CD mode, press and release to select the next or previous track. Press and hold to move quickly forward or backward through the current track.

In satellite radio mode, press and release to select the next or previous satellite radio station. If you select a specific category, such as jazz, rock or news, press to find the next or previous station in the category you select.

## DIGITAL RADIO (IF EQUIPPED)

**Note:** *HD Radio broadcasts are not available in all markets.*

HD Radio technology is the digital evolution of analog AM/FM radio. Your system has a special receiver that allows it to receive digital broadcasts, where available, in addition to the analog broadcasts, it already receives. Digital broadcasts provide a better sound quality

than analog broadcasts with free, crystal-clear audio and no static or distortion. For more information, and a guide to available stations and programming, please visit [www.hdradio.com](http://www.hdradio.com).

When HD Radio is on and you tune to a station broadcasting HD Radio technology, you may notice the HD Radio logo on your screen. When this logo is available, you may also see Title and Artist fields on-screen.

The multicast indicator appears in FM mode, only, if the current station is broadcasting multiple digital broadcasts. The highlighted numbers signify available digital channels where new or different content is available. HD1 signifies the main programming status and is available in analog and digital broadcasts. Other multicast stations, HD2 through HD7, are only available digitally.

When HD Radio broadcasts are active, you can access the following functions:

- **Memory presets** allow you to save an active channel as a memory preset. Touch and hold a memory preset slot until the sound returns. There is a brief mute while the radio saves the station. Sound returns when finished. When switching to an HD2 or HD3 memory preset, the sound mutes before the digital audio plays, because the system has to reacquire the digital signal.

**Note:** *As with any saved radio station, you cannot access the saved station if your vehicle is outside the station's reception area.*

# Audio System

## HD Radio Reception and Station Troubleshooting

<b>Potential reception issues</b>	
Reception area	If you are listening to a multicast station and you are on the fringe of the reception area, the station may mute due to weak signal strength.
	If you are listening to HD1, the system switches back to the analog broadcast until the digital broadcast is available again. However, if you are listening to any of the possible HD2-HD7 multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.
Station blending	When the system first receives a station, aside from HD2-HD7 multicast stations, it first plays the station in the analog version. Once the receiver verifies the station is an HD Radio station, it shifts to the digital version. Depending on the station quality, you may hear a slight sound change when the station changes from analog to digital. Blending is the shift from analog to digital sound or digital back to analog sound.

In order to provide the best possible experience, use the contact form to report any station issues found while listening to a station broadcasting with HD Radio technology. Independent entities own and operate each station. These stations are responsible for the accuracy of all audio streams and data fields.

# Audio System

Potential station issues		
Issues	Cause	Action
Echo, stutter, skip or repeat in audio. Increase or decrease in audio volume.	This is poor time alignment by the radio broadcaster.	No action required. This is a broadcast issue.
Sound fading or blending in and out.	The radio is shifting between analog and digital audio.	No action required. The reception issue may clear up as you continue to drive.
There is an audio mute delay when selecting HD2 or HD3, multicast preset or <b>Direct Tune</b> .	The digital multicast is not available until the HD Radio broadcast is decoded. Once decoded, the audio is available.	No action required. This is normal behavior. Wait until the audio is available.
Cannot access HD2 or HD3 multicast channel when recalling a preset or from a direct tune.	The previously stored multicast preset or direct tune is not available in your current reception area.	No action required. The station is not available in your current location.
Text information does not match currently playing audio.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below. <sup>1</sup>
There is no text information shown for currently selected frequency.	Data service issue by the radio broadcaster.	Fill out the station issue form at website listed below. <sup>1</sup>

<sup>1</sup> <http://hdradio.com/stations/feedback>

HD Radio Technology manufactured under license from iBiquity Digital Corporation and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of DTS Ford Motor Company and DTS are not responsible for the content sent using HD Radio technology. Content may be changed, added or deleted at any time at the station owner's discretion.

## SATELLITE RADIO (IF EQUIPPED)

SiriusXM® Satellite Radio broadcasts a variety of music, news, sports, weather, traffic and entertainment satellite radio channels. For more information and a complete list of SiriusXM satellite radio channels, visit [www.siriusxm.com](http://www.siriusxm.com) in the United States, [www.siriusxm.ca](http://www.siriusxm.ca) in Canada, or call SiriusXM at 1-888-539-7474.

# Audio System

**Note:** This receiver includes the eCos real-time operating system. eCos is published under the eCos License.

## Satellite Radio Reception Factors

Potential satellite radio reception issues	
Antenna obstructions	For optimal reception performance, keep the antenna clear of snow and ice build-up and keep luggage and other material as far away from the antenna as possible.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.
Station overload	When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and the audio system may mute.
Satellite radio signal interference	Your display may show ACQUIRING . . . to indicate the interference and the audio system may mute.

## SiriusXM Satellite Radio Service

**Note:** *SiriusXM 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 SiriusXM 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.*



SiriusXM satellite radio is a subscription-based satellite radio service that broadcasts a variety of music, sports, news, weather, traffic and entertainment programming. Your factory-installed SiriusXM satellite radio system includes hardware and a limited subscription term, which begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For more information on extended subscription terms (a service fee is required), the online media player and a complete list of SiriusXM satellite radio channels, and other features, please visit [www.siriusxm.com](http://www.siriusxm.com) in the United States, [www.siriusxm.ca](http://www.siriusxm.ca) in Canada, or call SiriusXM at 1-888-539-7474.

## Satellite Radio Electronic Serial Number (ESN)

You need your ESN to activate, modify or track your satellite radio account.

# Audio System

## Locating Your ESN

1. Select SiriusXM as the audio source.
2. Tune to channel 0.

## Troubleshooting

Message	Condition	Action
Acquiring...	Radio requires more than two seconds to produce audio for the selected channel.	No action required. This message should disappear shortly.
Satellite antenna fault SIRIUS system failure	There is an internal module or system failure present.	If this message does not clear shortly, or with an ignition key cycle, your receiver may have a fault. See an authorized dealer for service.
Invalid Channel	The channel is no longer available.	Tune to another channel or choose another preset.
Unsubscribed Channel	Your subscription does not include this channel.	Contact SiriusXM at 1-888-539-7474 to subscribe to the channel, or tune to another channel.
No Signal	The signal is lost from the SiriusXM satellite or SiriusXM tower to your vehicle antenna.	The signal is blocked. When you move into an open area, the signal should return.
Updating...	Update of channel programming in progress.	No action required. The process may take up to three minutes.
Questions? Call 1-888-539-7474	Your satellite service is no longer available.	Contact SiriusXM at 1-888-539-7474 to resolve subscription issues.
None found Check Channel Guide	All the channels in the selected category are either skipped or locked.	Use the channel guide to turn off the Lock or Skip function on that station.
Subscription Updated	SiriusXM has updated the channels available for your vehicle.	No action required.



# Audio System

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## USB PORT



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.



The USB port allows you to plug in media playing devices, memory sticks and charge devices.

**Note:** *Not all USB ports in your vehicle have data transfer capabilities. See **Auxiliary Power Points** (page 145).*

## GENERAL INFORMATION

SYNC is an in-vehicle communications system that works with your Bluetooth enabled cellular phone and portable media player. This allows you to:

- Make and receive calls.
- Access and play music from your portable music player.
- Use 911 Assist or Emergency Assistance and applications via SYNC AppLink.\*
- Access phonebook contacts and music using voice commands.
- Stream music from your connected phone.
- Text message.
- Use the advanced voice recognition system.
- Charge your USB device (if your device supports this).

\*These features are not available in all markets and may require activation. Available AppLink enabled apps vary by market.

Make sure that you review your device's manual before using it with SYNC.

## Support

SYNC support is available at your regional Ford website. See **SYNC™ Troubleshooting** (page 383).

## SYNC Owner Account

Why do I need a SYNC owner account?

- Essential for keeping up with the latest software downloads available for SYNC.
- Access to customer support for any questions you may have.

## Driving Restrictions

For your safety, certain features are speed-dependent and restricted when your vehicle is traveling over 3 mph (5 km/h).

## Safety Information



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

When using SYNC:

- Do not operate playing devices if the power cords or cables are broken, split or damaged. Place cords and cables out of the way, so they do not interfere with the operation of pedals, seats, compartments or safe driving abilities.
- Do not leave playing devices in your vehicle during extreme conditions as it could cause them damage. See your device's manual for further information.
- Do not attempt to service or repair the system. See an authorized dealer.

## Privacy Information

When a cellular phone is connected to SYNC, the system creates a profile within your vehicle that is linked to that cellular phone. This profile is created in order to offer you more cellular features and to operate more efficiently. Among other things, this profile may contain data about your cellular phone book, text messages

(read and unread), and call history, including history of calls when your cellular phone was not connected to the system. In addition, if you connect a media device, the system creates and retains an index of supported media content. The system also records a short development log of approximately 10 minutes of all recent system activity. The log profile and other system data may be used to improve the system and help diagnose any problems that may occur.

The cellular profile, media device index, and development log will remain in the vehicle unless you delete them and are generally accessible only in the vehicle when you connect the cellular phone or media player. If you no longer plan to use the system or the vehicle, we recommend you perform a Master Reset to erase all stored information.

No one can access system data without special equipment and access to the vehicle's SYNC module. Ford Motor Company and Ford of Canada will not access the system data for any purpose other than as described absent consent, a

court order, or where required by law enforcement, other government authorities, or other third parties acting with lawful authority. Other parties may seek to access the information independently of Ford Motor Company and Ford of Canada. For further privacy information, see the section on 911 Assist. See **SYNC™ Applications and Services** (page 379).

## USING VOICE RECOGNITION

This system helps you control many features using voice commands. This allows you to keep your hands on the wheel and focus on what is around you.

### Initiating a Voice Session



Press the voice button. A list of available voice commands appears in the display.

### Global Voice Commands

These voice commands are always available. You can say them at any time.

Global voice commands	
Help	Gives you available commands you can use on the current screen.
List of Commands	Gives you a list of possible voice commands.
Cancel	This command ends the voice session. You can also cancel a session by pressing seek up, seek down, or holding the voice button for two or more seconds.

## Helpful Hints

- Make sure the interior of your vehicle is as quiet as possible. Wind noise from open windows and road vibrations may prevent the system from correctly recognizing spoken commands.
- Before giving a voice command, wait for the system announcement to finish, followed by a single tone. Any command spoken before this does not register with the system.
- Speak naturally, without long pauses between words.
- You can interrupt the system at any time while it is speaking by pressing the voice button. You can cancel a voice session by pressing and holding the voice button.

## System Interaction and Feedback

The system provides feedback through audible tones, prompts, questions and spoken confirmations depending on the situation and the chosen level of interaction. You can customize the voice recognition system to provide more or less instruction and feedback.

The default setting is to a higher level of interaction in order to help you learn to use the system. You can change these settings at any time.

### Adjusting the Interaction Level



Press the voice button. When prompted, say:

Voice Command	Action and Description
Interaction Mode Standard	Provides more detailed interaction and guidance. (Recommended for first time users.)
Interaction Mode Advanced	Provides less audible interaction and guidance.

## Phone Confirmation

Using phone confirmations the system asks you to verify before placing any calls.

**To adjust this setting press the voice button, when prompted say:**

Voice Command	Action and Description
Phone Confirmation Off	When enabled, this feature will prompt you to confirm any voice initiated call command prior to the call being placed.
Phone Confirmation On	The system will make a best guess; you may still occasionally be asked to confirm settings.

## USING SYNC™ WITH YOUR PHONE

Hands-free calling is one of the main features of SYNC. While the system supports a variety of features, many are dependent on your cellular phone's functionality. At a minimum, most cellular phones with Bluetooth wireless technology support the following functions:

- Answering an incoming call.
- Ending a call.
- Dialing a number.
- Redialing.
- Call waiting notification.
- Caller identification.

Other features, such as text messaging using Bluetooth and automatic phonebook download, are phone-dependent features.

### Pairing a Phone

Wirelessly pairing your phone with SYNC allows you to make and receive hands-free calls.

**Note:** Make sure to switch on the ignition and the radio. Shift the transmission into park (P) for automatic transmission or neutral (N) for manual transmission.

### Using the Audio System

**Note:** To scroll through the menus, press the up and down arrows on your audio system.

1. Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.
2. Press the **Settings** button.
3. Select Bluetooth from the menu.
4. Press the **OK** button.
5. Select the option to add. This starts the pairing process.

6. When a message to begin pairing appears in the audio display, search for SYNC on your device.

Depending on your phone's capability and your market, the system may prompt you with questions, such as setting the current phone as the primary phone and downloading your phonebook.

### Using Voice Commands



Make sure to switch on your phone's Bluetooth feature before starting the search. See your device's manual if necessary.

### Press the voice button and when prompted say:

Voice Command	Action and Description
Pair Phone	Follow the instructions on the audio display.

### Phone Voice Commands



Press the voice button. You can do things like place a phone call and access text messages. When prompted, say a command. See the following table for examples of commands.

Voice Command
___ List of Commands
Help
Call ___
Dial ___
Text Messages

\_\_ is a dynamic listing, meaning that it could be the name of anything, such as a contact or phone number.

## Phone Controls

Use the phone buttons on your steering wheel to answer, reject, or hang up a call.

## Accessing Features through the Phone Menu

You can access your call history, phonebook, sent text messages, as well as access phone and system settings.

1. Press the **PHONE** button to enter the phone menu.
2. Scroll through the menu to view contacts, text messages, and the phone dialer.

## SYNC™ APPLICATIONS AND SERVICES

- 911 Assist: Can alert 911 in the event of an emergency.
- SYNC AppLink: Allows you to connect to and use certain applications (if your phone is compatible).

These features may require activation. Available AppLink enabled apps vary by market.

### 911 Assist



**WARNING:** Unless the 911 Assist setting is set on before a crash, the system will not dial for help which could delay response time, potentially increasing the risk of serious injury or death after a crash.



**WARNING:** Do not wait for 911 Assist to make an emergency call if you can do it yourself. Dial emergency services immediately to avoid delayed response time which could increase the risk of serious injury or death after a crash. If you do not hear 911 Assist within five seconds of the crash, the system or phone may be damaged or non-functional.



**WARNING:** Always place your phone in a secure location in your vehicle so it does not become a projectile or get damaged in a crash. Failure to do so may cause serious injury to someone or damage the phone which could prevent 911 Assist from working properly.

**Note:** The SYNC 911 Assist feature must be set on before the incident.

**Note:** The SYNC 911 Assist feature only operates in the U.S., Canada or in a territory in which 911 is the emergency number.

**Note:** Before setting this feature on, make sure that you read the 911 Assist Privacy Notice later in this section for important information.

**Note:** If any user switches 911 Assist to on or off, that setting applies for all paired phones. If 911 Assist is switched off, either a voice message plays or a display message or an icon comes on when your vehicle is started and after a previously paired phone connects.

**Note:** Every phone operates differently. While SYNC 911 Assist works with most cellular phones, some may have trouble using this feature.

If a crash deploys an airbag, excluding knee airbags and rear inflatable seatbelts, or activates the fuel pump shut-off, your vehicle may be able to contact emergency services by dialing 911 through a paired and connected **Bluetooth**®-enabled phone.

See **Supplementary Restraints System** (page 48). Important information about airbag deployment is in this chapter.

See **Roadside Emergencies** (page 232). Important information about the fuel pump shut-off is in this chapter.

## Setting 911 Assist On or Off

**Press the Settings button then select:**

Menu Item	Action and Description
911 Assist	Select the desired option, on or off.

To make sure that 911 Assist works properly:

- SYNC must be powered and working properly at the time of the incident and throughout feature activation and use.
- The 911 Assist feature must be set on before the incident.
- You must pair and connect a **Bluetooth**® enabled and compatible cell phone to SYNC.
- A connected **Bluetooth**® enabled phone must have the ability to make and maintain an outgoing call at the time of the incident.
- A connected **Bluetooth**® enabled phone must have adequate network coverage, battery power and signal strength.
- The vehicle must have battery power and be located in the U.S., Canada or in a territory in which 911 is the emergency number.

## In the Event of a Crash

Not all crashes deploy an airbag or activate the fuel pump shut-off (the triggers for 911 Assist). If a connected cell phone sustains damage or loses its connection to SYNC during a crash, SYNC searches for and tries to connect to a previously paired cell phone; SYNC then attempts to call the emergency services.

Before making the call:

- SYNC provides a short window of time (about 10 seconds) to cancel the call. If you fail to cancel the call, SYNC attempts to dial 911.
- SYNC says the following, or a similar message: "SYNC will attempt to call 911, to cancel the call, press Cancel on your screen or press and hold the phone button on your steering wheel".

If you do not cancel the call, and SYNC makes a successful call, a pre-recorded message plays for the 911 operator, and then the occupant(s) in your vehicle are able to talk with the operator. Be prepared to provide your name, phone number and location immediately, because not all 911 systems are capable of receiving this information electronically.

## 911 Assist May Not Work If

- Your cellular phone or 911 Assist hardware sustains damage in a crash.
- The vehicle's battery or the SYNC system has no power.
- The phone(s) thrown from your vehicle are the ones paired and connected to the system.

## 911 Assist Privacy Notice

When you switch on 911 Assist, it may disclose to emergency services that your vehicle has been in a crash involving the deployment of an airbag or activation of the fuel pump shut-off. Certain versions or updates to 911 Assist may also be capable of electronically or verbally disclosing to 911 operators your vehicle location or other details about your vehicle or crash to assist 911 operators to provide the most appropriate emergency services. If you do not want to disclose this information, do not switch the feature on.

## SYNC Mobile Apps

The system enables voice and steering wheel control of SYNC AppLink enabled smartphone apps. When an app is running through AppLink, you can control main features of the app through voice commands and steering wheel controls.

**Note:** You must pair and connect your smartphone to SYNC to access AppLink.

**Note:** Android users need to connect the phone to SYNC using **Bluetooth®**.

**Note:** For information on available apps, supported smartphone devices and troubleshooting tips please visit the Ford website.

**Note:** Availability of SYNC AppLink enabled Apps will vary by region.

**Note:** Make sure you have an active account for the app that you have downloaded. Some apps work automatically with no setup. Other apps want you to configure your personal settings and personalize your experience by creating stations or favorites. We recommend you do this at home or outside of your vehicle.

## To Access Using the SYNC Menu

**Press the Mobile Apps button to access the menu on-screen. Then select:**

Menu Item	Action and Description
Find Mobile Apps	Scroll through the list of available applications and select a particular app.

**Note:** If you cannot find a compatible SYNC AppLink app, make sure the required app is running on the mobile device.

## To Access Using Voice Commands

**Press the voice button, then when prompted say:**

Voice Command	Action and Description
Mobile Applications	Say the name of the application after the tone. The app should start. When an app is running through SYNC, you can press the voice button and speak commands specific to the app, for example "Play Playlist Road Trip".
List Applications	SYNC lists all of the currently available mobile apps.
Find Applications	Searches your connected mobile device for SYNC-compatible mobile apps.
Help	Use this command to discover the available voice commands.



## App Permissions

App permissions are organized by groups. You can grant these group permissions individually. You can change a permission group status any time when not driving, by using the settings menu.

When you launch an app using SYNC, the system may ask you to grant certain permissions, for example:

- To allow your vehicle to provide vehicle information to the app such as, but not limited to: Fuel level, fuel economy, fuel consumption, engine speed, rain sensor, odometer, VIN, external temperature, gear position, tire pressure, and head lamp status.
- To allow your vehicle to provide driving characteristic information such as, but not limited to: MyKey, seatbelt status, engine revolutions per minute, gear position, braking events, steering wheel angle, and accelerator pedal position.
- To allow your vehicle to provide location information, including: GPS and speed.
- To allow the app to send push notifications using the vehicle display and voice capabilities while running in a background state. Push notifications may be particularly useful for news or location based apps.

**Note:** *You only need to grant permissions the first time you use an app with SYNC.*

**Note:** *Ford is not responsible or liable for any damages or loss of privacy relating to usage of an app, or dissemination of any vehicle data that you approve Ford to provide to an app.*

## Enabling SYNC Mobile Apps

In order to enable mobile apps, SYNC requires user consent to send and receive app authorization information and updates using the data plan associated with the connected device.

Data is sent to Ford in the United States through the connected device. The information is encrypted and includes, for example, the vehicle identification number of your vehicle, the SYNC module serial number, odometer, enabled apps, usage statistics and debugging information. Updates may take place.

**Note:** *You must enable mobile apps for each connected device the first time you select a mobile app using the system.*

**Note:** *Standard data rates apply. Ford is not responsible for any additional charges you may receive from your service provider, when your vehicle sends or receives data through the connected device. This includes any additional charges incurred due to driving in areas when roaming out of a home network.*

## USING SYNC™ WITH YOUR MEDIA PLAYER

SYNC supports digital media sources including: iPod, **Bluetooth**® devices, and most USB drives. SYNC also supports audio formats, such as MP3, WMA, WAV and ACC.

### Media Sources

The **AUX** or **MEDIA** button allows you to view and select available media sources.

Press the **AUX** or **MEDIA** button to view your sources. Use the directional arrows and OK button to select your source. You can also use the steering wheel audio controls.

## SYNC™ (If Equipped)

### Audio Voice Commands



Press the voice button. You can do things like play a specific song or album, or tune to a radio station. When prompted, say a command. See the following table for example commands. Not all commands may be available on your vehicle.

Command
___ List of Commands
Help
Pause
Play
AM ___
FM ___
CD Player

Command
Sirius Channel ___
USB
Bluetooth Audio

\_\_\_ is a dynamic listing, meaning that it could be the name of anything, such as an artist, station, or media source.

### SYNC™ TROUBLESHOOTING

Your SYNC system is easy to use. However, should questions arise, see the tables below.

Use your local Ford website at any time to check your phone's compatibility, register your account and set preferences as well as access a customer representative via an online chat (during certain hours).

Market	Website(s)
North America	www.SYNCMYride.com www.SYNCMYride.ca www.syncmaroute.ca

Phone Issues		
Issue	Possible Cause(s)	Possible Solution(s)
There is excessive background noise during a phone call.	The audio control settings on your phone may be affecting SYNC performance.	Review your phone's manual about audio adjustments.
During a call, I can hear the other person but they cannot hear me.	This may be a possible phone malfunction.	Try turning off the device, resetting the device, removing the device's battery, then trying again.
SYNC is not able to download my phonebook.	This is a phone-dependent feature.	Go to the website to review your phone's compatibility.

## SYNC™ (If Equipped)

<b>Phone Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
	This may be a possible phone malfunction.	<p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p> <p>Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.</p> <p>Use the SYNCmyphone feature available on the website.</p>
The system says Phonebook Downloaded but the phonebook in SYNC is empty or missing contacts.	This may be a limitation on your phone's capability.	<p>Try pushing your phonebook contacts to SYNC by using the Add Contacts feature.</p> <p>If the missing contacts are stored on your SIM card, try moving them to the device memory.</p> <p>Remove any pictures or special ring tones associated with the missing contact.</p> <p>Depending upon your phone, you may have to grant SYNC permission to access your phonebook contacts. Make sure to confirm when prompted by your phone during the phonebook download.</p>
I am having trouble connecting my phone to SYNC.	This is a phone-dependent feature.	<p>Go to the website to review your phone's compatibility.</p> <p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p>

## SYNC™ (If Equipped)

Phone Issues		
Issue	Possible Cause(s)	Possible Solution(s)
	This may be a possible phone malfunction.	<p>Try deleting your device from SYNC, deleting SYNC from your device and trying again.</p> <p>Check the security and auto accept and prompt always settings relative to the SYNC <b>Bluetooth®</b> connection on your phone.</p> <p>Update your device's firm-ware.</p> <p>Turn off the Auto phone-book download setting.</p>
Text messaging is not working on SYNC.	<p>This is a phone-dependent feature.</p> <p>This may be a possible phone malfunction.</p>	<p>Go to the website to review your phone's compatibility.</p> <p>Try turning off the device, resetting the device or removing the device's battery, then trying again.</p>
I cannot return to the Phone menu when selecting a contact.	You are on the Select a Character screen.	Press the Phone button to return to the Phone menu.

USB and Media Issues		
Issue	Possible Cause(s)	Possible Solution(s)
I am having trouble connecting my device.	This may be a possible device malfunction.	<p>Try turning off the device, resetting the device, removing the device's battery, then trying again.</p> <p>Make sure you are using the manufacturer's cable.</p> <p>Make sure you insert the USB cable correctly into the device and the USB port.</p>

## SYNC™ (If Equipped)

<b>USB and Media Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
		Make sure that the device does not have an auto-install program or active security settings.
SYNC does not recognize my device when I turn on the car.	This is a device limitation.	Make sure you are not leaving the device in your vehicle during very hot or cold temperatures.
<b>Bluetooth®</b> audio does not stream.	This is a phone-dependent feature.  The device is not connected.	Review the device compatibility chart on the SYNC website to confirm your phone supports the <b>Bluetooth®</b> audio streaming function.  Make sure you correctly connect the device to SYNC, and that you have pressed play on your device.
SYNC does not recognize music that is on my device.	Your music files may not contain the correct artist, song title, album or genre information.  The file may be corrupted.  The song may have copyright protection, which does not allow it to play.	Make sure that all song details are populated.  Some devices require you to change the USB settings from mass storage to MTP class.
I cannot change the Sirius station.	Sirius Replay is active.	Switch radio bands and return to Sirius or switch the feature off. You can then change the Sirius station using the directional buttons.

## SYNC™ (If Equipped)

<b>Voice Command Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
<p>SYNC does not understand what I am saying.</p>	<p>You may be using the wrong voice commands.</p> <p>You may be speaking too soon or at the wrong time.</p>	<p>Review the phone voice commands and the media voice commands at the beginning of their respective sections.</p> <p>After pressing the voice icon, wait until after the tone sounds and Listening appears before saying a command. Any command spoken before this does not register with the system.</p>
<p>SYNC does not understand the name of a song or artist.</p>	<p>You may be using the wrong voice commands.</p> <p>You may be saying the name differently than the way you saved it.</p> <p>The system may not be reading the name the same way you are saying it.</p>	<p>Review the media voice commands at the beginning of the media section.</p> <p>Say the song or artist exactly as listed. If you say "Play Artist Prince", the system does not play music by Prince and the Revolution or Prince and the New Power Generation.</p> <p>Make sure you are saying the complete title, such as "California remix featuring Jennifer Nettles".</p> <p>If the song titles are in all CAPS, you have to spell them. LOLA requires you to say "L-O-L-A".</p> <p>Do not use special characters in the title. The system does not recognize them.</p>
<p>SYNC does not understand or is calling the wrong contact when I want to make a call.</p>	<p>You may be using the wrong voice commands.</p>	<p>Review the Phone voice commands at the beginning of the phone section.</p>

## SYNC™ (If Equipped)

<b>Voice Command Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
	<p>You may be saying the name differently than the way you saved it.</p> <p>The system may not be reading the name the same way you are saying it.</p> <p>Contacts in your phonebook may be very short and similar, or they may contain special characters.</p> <p>Your phonebook contacts may be in CAPS.</p>	<p>Make sure you are saying the contacts exactly as they are listed. For example, if you save a contact as Joe Wilson, say "Call Joe Wilson".</p> <p>Using the SYNC phone menu, open the phonebook and scroll to the name SYNC is having trouble understanding. SYNC will read the name to you, giving you some idea of the pronunciation SYNC is expecting.</p> <p>The system works better if you list full names, such as "Joe Wilson" rather than "Joe".</p> <p>Do not use special characters, such as 123 or ICE, as the system does not recognize them.</p> <p>If a contact is in CAPS, you have to spell it. JAKE requires you to say "Call J-A-K-E".</p>

<b>AppLink Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
<p>AppLink Mobile Applications: When I select "Find New Apps," SYNC does not find any applications.</p>	<p>An AppLink capable phone is not connected to SYNC.</p>	<p>Ensure you have a compatible smartphone; an Android with OS 2.3 or higher or an iPhone 3GS or newer with iOS 5.0 or higher. Additionally, ensure your phone is paired and connected to</p>

## SYNC™ (If Equipped)

<b>AppLink Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
		<p>SYNC in order to find AppLink-capable apps on your device. iPhone users must also connect to SYNC's USB port with an Apple USB cable.</p>
<p>My phone is connected, but I still cannot find any apps.</p>	<p>AppLink-enabled apps are not installed and running on your mobile device.</p>	<p>Ensure you have downloaded and installed the latest version of the app from your phone's app store. Ensure the app is running on your phone. Some apps require you to register or login on the app on the phone before using them with AppLink. Also, some may have a Ford SYNC setting, so check the app's settings menu on the phone.</p>
<p>My phone is connected, my app(s) are running, but I still cannot find any apps.</p>	<p>Sometime apps do not properly close and re-open their connection to SYNC, over ignition cycles, for example.</p>	<p>Closing and restarting apps may help SYNC find the application if you cannot discover it inside the vehicle. On an Android device, if apps have an Exit or Quit option, select that then restart the app. If the app does not have that option, you can also manually Force Close the app by going to the phone's settings menu, selecting Apps, then finding the particular app and choosing Force stop. Remember to restart the app afterwards, then select Find New Apps on SYNC.</p>



## SYNC™ (If Equipped)

<b>AppLink Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
		On an iPhone with iOS7+, to force close an app, double tap the home button then swipe up on the app to close it. Touch the home button again, then select the app again to restart it. After a few seconds, the app should appear in the SYNC Mobile App menu.
My Android phone is connected, my app(s) are running, I restarted them, but I still cannot find any apps.	There is a <b>Bluetooth®</b> bug on some older versions of the Android operating system that may cause apps that were found on your previous vehicle drive to not be found again if you have not turned off <b>Bluetooth®</b> .	Reset the <b>Bluetooth®</b> on your phone by turning it off and then turning <b>Bluetooth®</b> back on. If you are in your vehicle, SYNC should be able to automatically re-connect to your phone if you press the Phone button.

## SYNC™ (If Equipped)

<b>AppLink Issues</b>		
<b>Issue</b>	<b>Possible Cause(s)</b>	<b>Possible Solution(s)</b>
My iPhone phone is connected, my app is running, I restarted the app but I still cannot find it on SYNC.	The USB connection to SYNC may need to be reset.	Unplug the USB cable from the phone, wait a moment, and plug the USB cable back in to the phone. After a few seconds, the app should appear in SYNC's Mobile Apps Menu. If not, "Force Close" the application and restart it.
I have an Android phone. I found and started my media app on SYNC, but there is no sound or the sound is very low.	The <b>Bluetooth®</b> volume on the phone may be low.	Try increasing the <b>Bluetooth®</b> volume of the device by using the device's volume control buttons which are most often found on the side of the device.
I can only see some of the AppLink apps running on my phone listed in SYNC's Mobile Apps Menu.	Some Android devices have a limited number of <b>Bluetooth®</b> links apps can use to connect. If you have more AppLink apps on your phone than the number of available <b>Bluetooth®</b> links, you will not see all of your apps listed in SYNC's mobile apps menu.	Force close or uninstall the apps you do not want SYNC to find. If the app has a "Ford SYNC" setting, disable that setting in the app's settings menu on the phone.

<b>SYNC System Reset</b>
The SYNC system in your vehicle has System Reset feature that can be performed if the function of a SYNC feature is lost. This reset is intended to restore functionality and will not erase any information previously stored in the system (Such as paired devices, phonebook, call history, text messages, or user settings). To perform a System Reset, press and hold the Seek Up (>>) button while pressing and holding the Radio Power button. Release both buttons after 2-3 seconds. Please allow a few minutes for the reset to complete. After a few minutes has passed you can resume using the SYNC system.

## GENERAL INFORMATION



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

### About SYNC

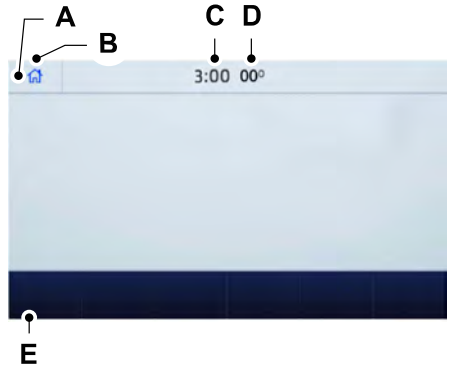
The system allows you to interact with the entertainment, information and communication systems on your vehicle using voice commands and a touchscreen. The system provides easy interaction with audio, phone, navigation, mobile apps and settings.

**Note:** You can switch the system on and use it for up to an hour without switching the ignition on.

**Note:** You can use the system after you switch the ignition off for up to 10 minutes or until you open a door.

**Note:** For your safety, some features are speed-dependent. Their use is limited to when your vehicle speed is less than 3 mph (5 km/h).

## Using the Touchscreen



- A Status bar.
- B Home screen.
- C Clock. See **Settings** (page 423).
- D Outside air temperature.
- E Feature bar.

### Status Bar

-  Cell phone microphone muted.
-  Audio system muted.
-  Software update installed.
-  Wi-Fi connected.
-  Cell phone roaming.
-  Text message received.



Automatic crash notification system off.



Cell phone network signal strength.



Vehicle data sharing on.



Vehicle location sharing on.



Vehicle data and vehicle location sharing on.



Wireless charger active.

## Feature Bar



Select to use the radio, a USB, a media player or a Bluetooth device. See **Entertainment** (page 401).



Select to adjust climate settings. See **Climate** (page 411).



Select to make calls and access the phonebook on your cell phone. See **Phone** (page 413).



Select to use the navigation system. See **Navigation** (page 415).



Select to search for and use compatible apps on your iOS or Android device. See **Apps** (page 420).



Select to adjust system settings. See **Settings** (page 423).

## Cleaning the Touchscreen

See **Cleaning the Interior** (page 294).

## Updating the System

### Updating the System Using a USB Drive

#### Downloading an Update

1. Go to the SYNC update page on the local Ford website.
2. Download the update.

**Note:** *The website notifies you if an update is available.*

3. Insert a USB drive into your computer.

**Note:** *The USB drive needs to be empty and meet the minimum requirements detailed on the website.*

4. Follow the instructions provided to download the update to the USB drive.

#### Installing an Update

**Note:** *You can use the system when an installation is in progress.*

1. Disconnect all other USB devices from the USB ports.
2. Connect the USB drive with the update to a USB port.

**Note:** *Installation starts automatically within 10 minutes.*

### Updating the System Using a Wi-Fi Network Connection

#### Connecting to a Wi-Fi Network



Select the settings option on the feature bar.

1. Select **Automatic Updates**.
2. Select **System Wi-Fi**.
3. Switch **System Wi-Fi** on.
4. Select **Available Wi-Fi Networks**.
5. Select an available Wi-Fi network.

**Note:** *Enter the network password to connect to a secure network.*

## Switching Automatic System Updates On



Select the settings option on the feature bar.

1. Select **Automatic Updates**.
2. Switch **Automatic System Updates** on.

The system is now set to check for and receive system updates when it is connected to a Wi-Fi network.

**Note:** You can use the system when a download is in progress.

**Note:** If the system is disconnected from the Wi-Fi network when a download is in progress, the download continues the next time the system is connected to a Wi-Fi network.

## Additional Information and Assistance

For additional information and assistance, we recommend that you contact an authorized dealer or refer to the local Ford website.

## USING VOICE RECOGNITION

The SYNC 3 system allows you to use voice commands to control features like audio and climate controls. By using voice commands, you can keep your hands on the wheel and your eyes on the road.

You can access each feature controlled by SYNC 3 through a variety of commands.



To activate the SYNC 3 voice commands push the voice button on the steering wheel and wait for the prompt.

\_\_\_ is a dynamic listing, meaning that it can be the name of anything, such as artist, the name of contact or number. The context and the description of the command tell you what to say for this dynamic option.

There are some commands that work for every feature, these commands are:

Voice Command	Action and Description
Main Menu	Brings you to the main menu.
Go back	Returns you to the previous screen.
Cancel	Ends the voice session.
List of Commands	Gives you a list of possible voice commands.
___ List of Commands	You can name any feature and the system gives a list of commands available for the feature. For example, you could say:
	Phone List of Commands
	Navigation List of Commands

## SYNC™ 3 (If Equipped)

Voice Command	Action and Description
Next Page	You can use this command to view the next page of options on any screen where multiple pages of choices are given.
Previous Page	You can use this command to view the previous page of options on any screen where multiple pages of choices are given.
Help	Gives you available commands you can use on the current screen.

Included here are some of the most popular commands for each SYNC 3 feature.

### Audio Voice Commands

\_\_\_ is a dynamic listing, meaning that for audio voice commands it can be the name of a Sirius channel or a channel number, a radio frequency number, or the name of an artist, album, song or a genre.

**To control the media features, press the voice button and when prompted, say:**

Voice Command	Description
Sirius Channel ___ <sup>1</sup>	You can say the Sirius channel name or number such as "Sirius channel 16".
You can also tune to a Sirius channel by saying the channel's name, such as "The Pulse".	
AM ___ FM ___	Allows you to tune to a specific FM or AM frequency such as "FM 88.7" or "AM 1580".
FM ___ HD ___ <sup>1</sup>	Allows you to tune to a specific HD frequency such as "FM 88.7 HD 1".
Bluetooth Audio	Allows you to listen to music on your <b>Bluetooth®</b> connected device.
USB	Allows you to listen to music on your USB connected device.
Play Genre ___ Play Playlist ___ Play Artist ___ Play Album ___ Play Podcast ___ Play Song ___	For USB audio only, you can say the name of an artist, album, song or a genre to listen to that selection. Your system must finish indexing before this option is available. For example, you could say "Play artist The Beatles" or "Play song Penny Lane".

# SYNC™ 3 (If Equipped)

Voice Command	Description
Play Audiobook ____	
Browse ____ Browse Artist ____ Browse Album ____ Browse Genre ____ Browse Playlist ____ Browse Audiobook ____ Browse Podcast ____	For USB audio only, you can say the name of an artist, album, or a genre to browse by that selection. Your system must finish indexing before this option is available. For example you can say "Browse artist The Beatles" or "Browse genre folk".

<sup>1</sup> This option may not be available in all markets or may require a subscription.

## Climate Voice Commands (If Equipped)

You can control the temperature of the vehicle using voice commands.

\_\_\_\_ is a dynamic listing, meaning that for climate voice commands it can be the desired degrees for the temperature setting.

### To adjust the temperature, say:

Voice Command	Description
Set the Temperature to ____	Adjust the temperature between 60–85°F (15.5–29.5°C).

## Phone Voice Commands

### Pairing a Phone

You can use voice commands to connect your **Bluetooth**®-enabled phone to the system.

### To pair your phone, press the voice button and when prompted, say:

Voice Command	Description
Pair Phone	Follow the on-screen instructions to complete the pairing process. See <b>Settings</b> (page 423).

# SYNC™ 3 (If Equipped)

## Making Calls

\_\_\_ is a dynamic listing, meaning that for

phone voice commands it can be the name of the contact you wish to call or the digits you want to dial.

### Press the voice button and say a command similar to the following:

Voice Command	Description
Call ___	Allows you to call a specific contact from your phonebook such as "Call Jenny".
Call ___ at ___	Allows you to call a specific contact from your phonebook at a specific location such as "Call Jenny at Home".
Dial ___	Allows you to dial a specific number such as "Dial 867-5309".

Please make sure that you are saying the contact name exactly as it appears in your contact list.

### Once you have provided the digits of the phone number, you can say the following commands:

Voice Command	Description
<0-9>	If you did not enter the full number with the first command, you can continue saying the number.
Dial	Tells SYNC 3 to make the phone call.
Delete	Tells SYNC 3 to erase the last block of digits you state.
Clear	Tells SYNC 3 to erase the entire number.



# SYNC™ 3 (If Equipped)

## Text Message Voice Commands

To access text message options, press the voice button and say:

Voice Command	Description
Listen to Message	
Listen to text message ____	You can say the number of the message you would like to hear.
Reply to Message	
Reply to Message ____	You can say the number of the message you would like to respond to.
Reply to ____	You can say the contact of the most recent message to respond.

## Navigation Voice Commands (If Equipped)

### Setting a Destination

You can use any of the following commands to set a destination or find a point of interest.

\_\_\_\_ is a dynamic listing, meaning that for navigation voice commands it can be a POI category or a major brand name, where a major brand name is a chain with more than 20 locations.

**You can find an address, a point of interest (POI), or search for points of interest by category:**

Voice Command	Description
Find an Address	Allows you to enter the address search functionality. You can also search for an address in a specific state or province.
Find a ____	State the name of the POI category or major brand name you would like to search for such as "Find restaurants".
Find a POI	Allows you to enter the POI search functionality.
Find an Intersection	Allows you to enter the intersection search functionality.
Find the Nearest <POI Category>	State the name of a POI category or major brand name you would like to search for.
Show Previous Destinations	Allows you to see a list of your previous destinations.

## SYNC™ 3 (If Equipped)

Voice Command	Description
Show Favorites	Allows you to see a list of your favorite destinations.
Drive Home	Allows you to route to your home address.
Drive to Work	Allows you to route to your work address.

### In addition, you can say these commands when a route is active:

Voice Command	Description
Cancel Route	Cancels the current route.
Detour	Allows you to select an alternate route.
Repeat Instruction	Repeats the last guidance prompt.
Show Route	Displays the active route.
Route Summary	Displays the list of upcoming maneuvers.
Where Am I	Provides current location.
Zoom in	Allows you to zoom in on the map.
Zoom out	Allows you to zoom out from the map.

### Mobile App Voice Commands (If Equipped)

#### The following voice commands are always available:

Voice Command	Description
Mobile Apps	SYNC 3 will prompt you to say the name of an app to start it on SYNC 3.
List Mobile Apps	SYNC 3 will list all of the currently available Mobile Apps.
Find Mobile Apps	SYNC 3 will search and connect to compatible app(s) running on your mobile device.

## SYNC™ 3 (If Equipped)

**There are also voice commands that you can use when app(s) are connected to SYNC 3:**

Voice Command	Description
Say the name of an app	At any time, you can say the name of a mobile app to start the mobile app on SYNC 3.
Say the name of an app, followed by help	SYNC 3 will list the available voice commands for the specified app if the app is running on SYNC 3.

### **SiriusXM Traffic and Travel Link Voice Commands (If Equipped)**

SiriusXM Traffic and Travel Link may not be available in all markets. Activation and a subscription are required.

**You can say the following commands to access SiriusXM Traffic and Travel Link:**

Voice Command	Description
Show Traffic	Displays a list of traffic incidents.
Show Weather Map	Displays the current weather map.
Show Fuel Prices	Displays a list of fuel prices.
Show 5 Day Forecast	Displays the 5 day weather forecast.
Help	

### **Voice Settings Commands**

**You can say the following commands to access the voice settings:**

Voice Command	Description
Voice Settings	Allows you to enter the voice settings functionality.
Interaction Mode Standard	Sets standard prompting with longer prompts.
Interaction Mode Advanced	Sets advanced prompting with shorter prompts.
Phone Confirmation On	Allows the system to confirm before making a phone call.

## SYNC™ 3 (If Equipped)

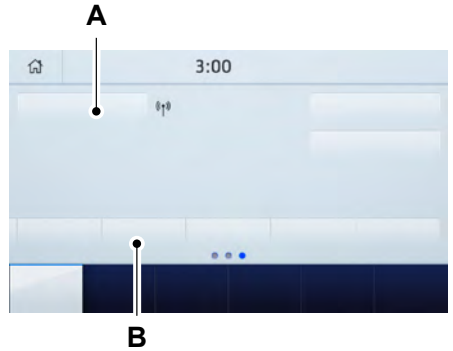
Voice Command	Description
Phone Confirmation Off	The system does not confirm before placing a call.
Voice Command Lists On	The system displays a short list of available commands.
Voice Command Lists Off	The system does not display the list of commands.

You can use the volume control to adjust the volume of the system voice prompts. While prompt is active, adjust the volume control up or down to your desired setting.

**Note:** Depending on the current climate control settings, the fan speed may automatically go down while issuing voice commands or while making and receiving phone calls via SYNC to reduce the amount of background noise in the vehicle. The fan speed will automatically return to normal operation once the voice session ends. You can adjust the fan speed during a voice session, simply press the fan buttons (or turn the fan knob) to increase or decrease the fan speed to the setting you prefer.

To disable this automatic fan speed reduction feature during voice sessions, press and hold the climate control AC and Recirculated air buttons simultaneously, release and then increase fan speed within 2 seconds. To re-enable this feature, repeat the above sequence.

## ENTERTAINMENT



- A Audio source. Select to choose a different audio source.
- B Presets. Swipe left to view more presets.

You can access these options using the touchscreen or voice commands.

## Sources

Press this button to select the source of media you want to listen to.

## SYNC™ 3 (If Equipped)

Menu Item	
AM	
FM	
SIRIUS <sup>1</sup>	
CD	
USB	The name of the USB that is plugged in displays here.
Bluetooth Stereo	
Apps	If you have SYNC 3 compatible apps on your connected smart phone, they display here as individual source selections.

<sup>1</sup> This feature may not be available in all markets and requires an active subscription.

### AM/FM Radio

#### Tuning a Station

You can use the tune or seek controls on the radio bezel to select a station.

#### To tune a station using the touchscreen, select:

Menu Item
Direct Tune

A pop up appears, allowing you to type in the frequency of a station. You can only enter a valid station for the source you are currently listening to.

You can press the backspace button to delete the previously entered number.

#### Once you have entered the station's call numbers, you can select:

Menu Item	Action and Description
Enter	Press to begin playing the station you have entered.
Cancel	Press to exit without changing the station.

#### Presets

To set a new preset, tune to the station and then press and hold one of the memory preset buttons. The audio mutes briefly while the system saves the station and then returns.

You may be able to add additional preset pages using the settings option on the feature bar.

## SYNCTM 3 (If Equipped)

### SiriusXM® Satellite Radio (If Activated)

**Note:** This feature may not be available in all markets and requires an active subscription.



SiriusXM satellite radio is a subscription-based satellite radio service that broadcasts a variety of music, sports, news, weather, traffic and entertainment programming. Your factory-installed SiriusXM satellite radio system includes hardware and a limited subscription term that begins on the date of sale or lease of your vehicle. See an authorized dealer for availability.

For more information on extended subscription terms (a service fee is required), the online media player and a list of SiriusXM satellite radio channels, and other features, please visit [www.siriusxm.com](http://www.siriusxm.com) in the United States, [www.siriusxm.ca](http://www.siriusxm.ca) in Canada, or call SiriusXM at 1-888-539-7474.

**Note:** SiriusXM reserves the unrestricted right to change, rearrange, add or delete programming. This includes canceling, moving or adding particular channels, and its prices, at any time, with or without notice to you. We are not responsible for any such programming changes.

**Note:** This receiver includes the eCos real-time operating system. eCos is published under the eCos License.

### The following buttons are available for SiriusXM:

Menu Item	Action and Description	
Browse	Touch this button to see a list of available stations.	
Direct Tune	A pop-up appears, allowing you to type in the call numbers of a station. Once you enter the stations call numbers, you can select:	
	Enter	The system tunes to the station you select.
	Cancel	You exit the pop-up and the current station continues to play.
	You can press the backspace button to delete the previous number.	

## SYNC™ 3 (If Equipped)

Menu Item	Action and Description	
Replay	Replay audio on the current channel. You can replay approximately 45 minutes of audio as long as you remain tuned to the current station. Changing stations erases the previous audio.	
	Live	When you are in replay mode, you are not able to select a different preset until you return to live audio. Pressing this button returns you to the live broadcast.
ALERT	Save the current song, artist, or team as a favorite. The system alerts you when it plays again on any channel. Selecting this button allows you to enable and edit alerts.	

### Memory Presets

To set a preset, tune to the station then press and hold one of the memory preset buttons. The audio mutes briefly while the system saves the station and returns once the station is stored.

You may be able to add additional preset pages using the settings option on the feature bar.

### SiriusXM Satellite Radio Reception Factors and Troubleshooting

Potential Reception Issues	
Antenna obstructions	For optimal reception performance, keep the antenna clear of snow and ice build-up and keep luggage and other materials as far away from the antenna as possible.
Terrain	Hills, mountains, tall buildings, bridges, tunnels, freeway overpasses, parking garages, dense tree foliage and thunderstorms can interfere with your reception.
Station overload	When you pass a ground-based broadcast-repeating tower, a stronger signal may overtake a weaker one and the audio system may mute.
Satellite radio signal interference	Your display may show ACQUIRING... to indicate the interference and the audio system may mute.

## SYNCTM 3 (If Equipped)

<b>Troubleshooting Tips</b>		
<b>Message</b>	<b>Cause</b>	<b>Action</b>
Acquiring Signal	Radio requires more than two seconds to produce audio for the selected channel.	No action required. This message should disappear shortly.
Satellite antenna fault SIRIUS system failure	There is an internal module or system failure present.	If this message does not clear shortly, or with an ignition key cycle, your receiver may have a fault. See an authorized dealer for service.
Invalid Channel	The channel is no longer available.	Tune to another channel or choose another preset.
Unsubscribed Channel	Your subscription does not include this channel.	Contact SiriusXM at 1-888-539-7474 to subscribe to the channel, or tune to another channel.
Satellite acquiring signal...	The signal is lost from the SiriusXM satellite or SiriusXM tower to your vehicle antenna.	The signal is blocked. When you move into an open area, the signal should return.
Updating...	Update of channel programming in progress.	No action required. The process may take up to three minutes.
Questions? Call 1-888-539-7474	Your satellite service is no longer available.	Contact SiriusXM at 1-888-539-7474 to resolve subscription issues.
None found. Check channel guide.	All the channels in the selected category are either skipped or locked.	Use the channel guide or the Sirius XM Settings tile to turn off the Lock or Skip function on that station.
SIRIUS Subscription updated	SiriusXM has updated the channels available for your vehicle.	No action required.

### **HD Radio™ Information (If Available)**

To activate HD radio, please see the Radio Settings in the Settings Chapter. See **Settings** (page 423).

**Note:** *HD Radio broadcasts are not available in all markets.*



## SYNC™ 3 (If Equipped)

HD Radio technology is the digital evolution of analog AM/FM radio. Your system has a special receiver that allows it to receive digital broadcasts (where available) in addition to the analog broadcasts, it already receives. Digital broadcasts provide a better sound quality than analog broadcasts with free, crystal-clear audio and no static or distortion. For more information, and a guide to available stations and programming, please visit:

<b>Website</b>
<a href="http://www.hdradio.com">www.hdradio.com</a>

When HD Radio is on and you tune to a station broadcasting HD Radio technology, you may notice the following indicators on your screen:



The HD logo is grey when acquiring a digital station, and then changes to orange when digital audio is playing. When this logo is available, you may also see Title and Artist fields on-screen.

The multicast indicator appears in FM mode (only) if the current station is broadcasting multiple digital broadcasts. The highlighted numbers signify available digital channels where new or different content is available. HD1 signifies the main programming status and is available in analog and digital broadcasts. Other multicast stations (HD2 through HD7) are only available digitally.

**Note:** *There is also an additional feature for stations that have more than 1 HD multicast (For example, HD1 or HD2). The HD logo and Radio text appears as a button. Pressing this button allows you to cycle through all of the HD stations on that specific frequency. For example, if you are on 101.1 and it has HD1, HD2, HD3, pressing the button repeatedly causes the radio to cycle through the HD stations in a cyclic increasing order.*

### When HD Radio broadcasts are active, you can access the following functions:

Message	Action and Description
Presets	Allows you to save an active channel as a memory preset. Touch and hold a memory preset slot until the sound returns. There is a brief mute while the radio saves the station. Sound returns when the channel saves. When switching to an HD2 or HD3 memory preset, the sound mutes before the digital audio plays, because the system has to reacquire the digital signal.

**Note:** *As with any station you save, you cannot access the saved station if your vehicle is outside the station's reception area.*

# SYNCTM 3 (If Equipped)

## HD Radio Reception and Station Troubleshooting

Potential Reception Issues	
Reception area	<p>If you are listening to a multicast station and you are on the fringe of the reception area, the station may mute due to weak signal strength.</p> <p>If you are listening to HD1, the system changes back to the analog broadcast until the digital broadcast is available again. However, if you are listening to any of the possible HD2-HD7 multicast channels, the station mutes and stays muted unless it is able to connect to the digital signal again.</p>
Station blending	<p>When the system first receives a station (aside from HD2-HD7 multicast stations), it first plays the station in the analog version. Once the receiver verifies the station is an HD Radio station, it shifts to the digital version. Depending on the station quality, you may hear a slight sound change when the station changes from analog to digital. Blending is the shift from analog to digital sound or digital back to analog sound.</p>

In order to provide the best possible experience, use the contact form to report any station issues found while listening to a station broadcasting with HD Radio technology. Independent entities own and operate each station. These stations are responsible for ensuring all audio streams and data fields are accurate.

Potential Station Issues		
Issues	Cause	Action
Echo, stutter, skip or repeat in audio. Increase or decrease in audio volume.	This is poor time alignment by the radio broadcaster.	No action required. This is a broadcast issue.
Sound fading or blending in and out.	The radio is shifting between analog and digital audio.	No action required. The reception issue may clear up as you continue to drive.
There is an audio mute delay when selecting HD2 or HD3, multicast preset or Direct Tune.	The digital multicast is not available until the HD Radio broadcast is decoded. Once decoded, the audio is available.	No action required. This is normal behavior. Wait until the audio is available.

## SYNC™ 3 (If Equipped)

Potential Station Issues		
Issues	Cause	Action
Cannot access HD2 or HD3 multicast channel when recalling a preset or from a direct tune.	The previously stored multicast preset or direct tune is not available in your current reception area.	No action required. The station is not available in your current location.
Text information does not match currently playing audio.	Data service issue by the radio broadcaster.	Fill out the station issue form. <sup>1</sup>
There is no text information shown for currently selected frequency.	Data service issue by the radio broadcaster.	Fill out the station issue form. <sup>1</sup>

<sup>1</sup> You can find the form here:

Website
<a href="http://hdradio.com/stations/feedback">http://hdradio.com/stations/feedback</a>

HD Radio Technology manufactured under license from iBiquity Digital Corporation and foreign patents. HD Radio and the HD and HD Radio logos are proprietary trademarks of DTS. The vehicle manufacturer and DTS 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.

### CD (If Equipped)

Once you select this option, the system returns you to the main audio screen.

The current audio information appears on the screen.

### The following buttons are also available:

Button	Function
Browse	You can use the browse button to select a track.
Repeat	Select this button and a small number one displays to indicate the track is set to repeat.

## SYNC™ 3 (If Equipped)

Button	Function
	For MP3 CDs, this button allows you to toggle through repeat off, repeat one track (a small number one displays), and repeat current folder (a small folder displays).
Shuffle	Select the shuffle symbol to have the audio on the disk play in random order.

You can use the forward, reverse, pause or play buttons to control the audio playback.

### **Bluetooth® Stereo or USB**

**Bluetooth®** Stereo and USB allow you to access media that you store on your **Bluetooth®** device or USB device such as music, audio books or podcasts.

### **The following buttons are available for Bluetooth® and USB:**

Button	Function
Repeat	Pressing the repeat button toggles the repeat setting through three modes: repeat off (button not highlighted), repeat all (button highlighted) and repeat track (button highlighted with a small number one).
Shuffle	Play the tracks in random order.

You can use the forward, reverse, pause or play buttons to control the audio playback.

To get more information about the currently playing track, press the cover art or Info button.

For some devices, SYNC 3 is able to provide 30-second skip buttons when you listen to audio books or podcasts. These buttons allow you to skip forward or backward within a track.

While playing audio from a USB device you can look for certain music by selecting the following:

Button	Function
Browse	If available, displays the list of tracks in the Now Playing playlist.
New Search	This option, which is available under browse, allows you to play all tracks or to filter the available media into one of the below categories.
	Play All

## SYNC™ 3 (If Equipped)

Button	Function
	Playlists
	Artist
	Albums
	Songs
	Genres
	Podcasts
	Audio books
	Composers
A-Z Jump	This button allows you to choose a specific letter to view within the category you are browsing.
Explore Device	If available, this allows you to browse the folders and files on your USB device.

### USB Ports



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The USB ports are in the center console or behind a small access door in the instrument panel.

This feature allows you to plug in USB media devices, memory sticks, flash drives or thumb drives, and charge devices if they support this feature.

Select this option to play audio from your USB device.

### Apps

The system supports the use of certain audio apps such as iHeartRadio through a USB or **Bluetooth**®-enabled device.

Each app gives you different on-screen options depending on the app's content. See **Apps** (page 420).

### Supported Media Players, Formats and Metadata Information

The system is capable of hosting nearly any digital media player, including iPod, iPhone, and most USB drives.

Supported audio formats include MP3, WMA, WAV, AAC, and FLAC.

Supported audio file extensions include MP3, WMA, WAV, M4A, M4B, AAC, and FLAC.

## SYNC™ 3 (If Equipped)

Supported USB file systems include: FAT, exFAT, and NTFS.

SYNC 3 is also able to organize the media from your USB device by metadata tags. Metadata tags, which are descriptive software identifiers embedded in the media files, provide information about the file.

If your indexed media files contain no information embedded in these metadata tags, SYNC 3 may classify the empty metadata tags as unknown.

SYNC 3 is capable of indexing up to 50,000 songs per USB device, for up to 10 devices.

### CLIMATE

Touch the climate button on the touchscreen to access your climate control features.

**Note:** You can switch temperature units between Fahrenheit and Celsius. See **Settings** (page 423).

#### Accessing the Climate Control Menu



Touch the button to access additional controls for the front climate system.

#### Directing the Airflow



Touch the button to direct airflow to the windshield air vents and de-mister.



Touch the button to direct airflow to the instrument panel air vents.



Touch the button to direct airflow to the footwell air vents.

You can direct air through any combination of these air vents.

#### Setting the Blower Motor Speed



Touch up or down to increase or decrease the volume of air that circulates in your vehicle.

#### Setting the Temperature

Touch up or down on the left-hand temperature control to set the left-hand temperature.

**Note:** This control also adjusts the right-hand side temperature when you switch off dual zone mode.

Touch up or down on the right-hand temperature control to set the right-hand temperature.

#### Switching Auto Mode On and Off



Touch the button to switch on automatic operation, then set the temperature.

The system adjusts the blower motor speed, air distribution, air conditioning operation, and outside or recirculated air to reach and maintain the temperature you have set.

#### Switching the Air Conditioning On and Off



A pop-up appears on the screen to display the air conditioning options.

**MAX A/C:** Touch the button to activate and maximize cooling. The driver and passenger temperatures are set to LO, recirculated air flows through the instrument panel vents, air conditioning automatically turns on and the fan automatically adjusts to the highest speed.

**A/C:** Touch to switch the air conditioning on or off. Use A/C with recirculated air to improve cooling performance and efficiency.

**Note:** *In certain conditions, such as maximum defrost, the air conditioning compressor may continue to operate even though you switch off the air conditioning.*

## Switching the Climate Control On and Off



Touch the button.

## Switching the Climate Controlled Seats On and Off



Touch the button to cycle through the various climate controlled seat settings.

## Switching Dual Zone Mode On and Off



Touch the button to switch on temperature control for the right-hand side of the vehicle.

## Switching the Heated Exterior Mirrors On and Off



Touch the button.

## Switching the Heated Windshield On and Off



Touch the button to clear the windshield of thin ice and fog. The heated windshield turns off after a short period of time.

## Switching the Heated Rear Window On and Off



Touch the button to clear the rear window of thin ice and fog.

## Switching the Heated Seats On and Off



Touch the button to cycle through the various heat settings.

## Switching the Heated Steering Wheel On and Off



Touch the button.

## Switching Maximum Air Conditioning On and Off



Touch the button for maximum cooling.

Recirculated air flows through the instrument panel air vents, air conditioning turns on and the blower motor adjusts to the highest speed.

## Switching Maximum Defrost On and Off



Touch the button for maximum defrosting.

Air flows through the windshield air vents, and the blower motor adjusts to the highest speed.

You can also use this setting to defog and clear the windshield of a thin covering of ice.

**Note:** *To prevent window fogging, you cannot select recirculated air when maximum defrost is on.*

## SYNC™ 3 (If Equipped)

**Note:** The heated rear window also turns on when you select maximum defrost.

### Switching Recirculated Air On and Off



Touch the button to switch between outside air and recirculated air.

The air currently in the passenger compartment recirculates. This may reduce the time needed to cool the interior, when used with **A/C**, and reduce unwanted odors from entering your vehicle.

**Note:** Recirculated air may turn off, or prevent you from switching on, in all air flow modes except **MAX A/C** to reduce the risk of fogging. Recirculation may also turn on and off in various air distribution control combinations during hot weather to improve cooling efficiency.

### Switching the Ventilated Seats On and Off



Touch the button to cycle through the various ventilated seat settings.

### Accessing Rear Climate Controls



Touch the button to access additional controls for the rear climate system.

### Rear Climate Control Lock Indicator



Touch the button.

When on, you can only operate the rear passenger settings through the front controls.

### Switching Rear Auto Mode On and Off



Touch the button to switch on rear automatic operation, then set the temperature.

### Switching the Rear Climate Controlled Seats On and Off



Touch the button to cycle through the various climate controlled seat settings.

### Switching the Rear Heated Seats On and Off




Touch the button to cycle through the various heat settings.

### Switching the Rear Ventilated Seats On and Off



Touch the button to cycle through the various ventilated seat settings.

## PHONE

 **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.



Check the compatibility of your device on the regional website.

## Pairing Your Cell Phone for the First Time

Go to the settings menu on your device and switch **Bluetooth®** on.



Select the phone option on the feature bar.

1. Select **Add Phone**.

**Note:** A prompt alerts you to search for your vehicle on your cell phone.

2. Select your vehicle on your cell phone.

**Note:** A number appears on your cell phone and on the touchscreen.

3. Confirm that the number on your cell phone matches the number on the touchscreen.

**Note:** The touchscreen indicates that you have successfully paired your cell phone.

4. Download the phonebook from your cell phone when you are prompted.

**Note:** If you pair more than one cell phone, use the phone settings to specify the primary phone. You can change this setting at any time.

## Using Your Cell Phone

### Recent Call List

Display and select an entry from a list of previous calls.

### Contacts

Display a smart search form to look up your contacts. Use the List button to alphabetically sort your contacts.

## Change Phone

Display the list of paired or connected devices that you can select.

### Phone Settings

Change ring tones, alerts or pair another phone.

### Do Not Disturb

Reject incoming calls and switch ring tones and alerts off.

### Phone Keypad

Directly dial a number.

### Mute

Mute the microphone when in a call or voice recognition session.

## Text Messaging

### Setting Text Message Notification

#### iOS

1. Go to the settings menu on your cell phone.
2. Select Bluetooth.
3. Select the information icon to the right of your vehicle.
4. Switch text message notification on.

#### Android

1. Go to the settings menu on your cell phone.
2. Select Bluetooth.
3. Select the profiles option.
4. Select the phone profile.
5. Switch text message notification on.

# SYNCTM 3 (If Equipped)

## Using Text Messaging

Menu Item	Description
Hear It	Hear the text message.
View	View the text message.
Call	Call the sender.
Reply	Reply to the text message with a standard text message.

## Apple CarPlay (If Equipped)

1. Connect your device to a USB port.
2. Follow the instructions on the touchscreen.

**Note:** Certain features of the system are not available when you are using Apple CarPlay.

### Switching Apple CarPlay Off



Select the settings option on the feature bar.

1. Select **Apple CarPlay Preferences**.
2. Switch **Apple CarPlay** off.

## Android Auto (If Equipped)

1. Connect your device to a USB port.
2. Follow the instructions on the touchscreen.

**Note:** You might need to enable Android Auto from the settings menu.

**Note:** Certain features of the system are not available when you are using Android Auto.

### Switching Android Auto Off



Select the settings option on the feature bar.

1. Select **Android Auto**.

2. Switch **Android Auto** off.

## NAVIGATION (IF EQUIPPED)

**Note:** For more information, refer to our website.



Select the navigation option on the feature bar.



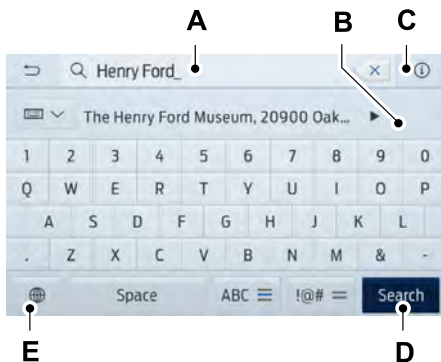
- A Map view menu.
- B Zoom out.
- C Zoom in.
- D Route guidance menu.
- E Destination entry menu.

## Setting a Destination

### Destination Entry Menu

Item	Description
Search	Enter a destination address.
Previous Destinations	Display and select from a list of previous destinations.
Home	Set your saved home address as your destination
Work	Set your saved place of work as your destination.
Favorites	Display and select from a list of favorite destinations.

### Setting a Destination Using the Text Entry Screen



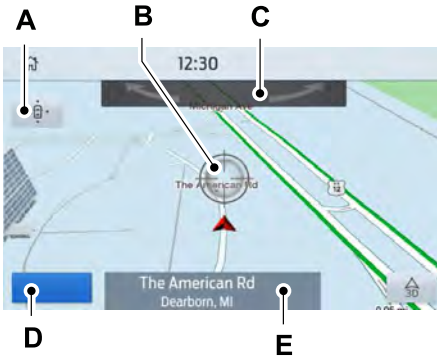
**You can search by entering all or part of the destination, such as the Address, POI Category or Name, Intersection, City, Latitude/Longitude, etc. Tips: If you do not specify a location, the system will use the current vehicle location. You can specify a location by address, city, state or zip code. For additional search support, please visit: [support.ford.com](http://support.ford.com).**

**Note:** Press the button in the top right-hand corner of the main map to display estimated time of arrival, remaining travel time or distance to destination.

- A Text entry field.
- B Automatic suggestions based on the text you enter.
- C Information icon.
- D Search.
- E Keyboard settings.

**Note:** Select one of the suggestions to copy the detail to the text entry field.

## Setting a Destination Using the Map Screen



- A Re-center the map.
- B Selected location.
- C 3D map rotation. Swipe left or right.
- D Start route guidance.
- E Destination name.

Select the location on the map.  
 Select **Start** to begin route guidance.

## Changing the Format of the Map

Display the map in one of the following formats:

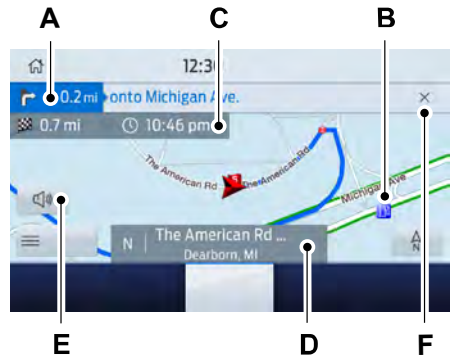
- A two-dimensional map with the direction you are traveling toward the top of the screen.
- A two-dimensional map with north toward the top of the screen.
- A three-dimensional map with the direction you are traveling toward the front.

## Zoom

Display more or less detail on the map.

**Note:** You can use pinch gestures to zoom in and out. Place two fingers on the screen and move them apart to zoom in. Place two fingers on the screen and bring them together to zoom out.

## Route Guidance



- A Turn indicator. Select to hear the last voice prompt.
- B Point of interest.
- C Estimated time of arrival, distance to destination or time to destination.
- D Current road.
- E Mute guidance prompts.
- F Cancel route guidance.

**Note:** To change guidance prompt volume, turn the volume control when a guidance prompt plays.

## Route Guidance Menu

Menu Item	Description
Screen View	Adjust your map preferences for when route guidance is active.
Full Map	View a full screen map when route guidance is active.
Highway Exit Info	View highway exit information for your current route.
Turn List	View the turn list for your current route. Select a road to avoid it.
Traffic List	You can find the SiriusXM Traffic and Travel Link information by pressing this button. This information requires an active subscription to SiriusXM Traffic and Travel Link. When a route is not active, a list of nearby traffic incidents displays. When a route is active, you can choose to display a list of traffic nearby or on the route.
Navigation Settings	Adjust navigation settings. See <b>Settings</b> (page 423).
Where Am I?	View information about your current location.
Cancel Route	Cancel route guidance.
View Route	View the entire current route on the map.
Detour	View an alternative route compared to your current one.
Edit Waypoints	Change the order or remove waypoints.
Optimize Order	The system determines the order of waypoints for you.
Go	Go to the next screen and start the new route.

### Adjusting the Guidance Prompt Volume

Turn the volume control when a guidance prompt plays to adjust the volume.

**Note:** *If you have inadvertently adjusted the volume to zero, press the turn indicator button to play the last voice prompt and then adjust the volume to the desired level.*

### Muting Guidance Prompts



Select the mute option on the screen to mute guidance prompts.

**Note:** *The system mutes the next and all future guidance prompts.*

### Adding Waypoints

You can add a waypoint to a navigation route as a destination along your route. You can add up to five waypoints.

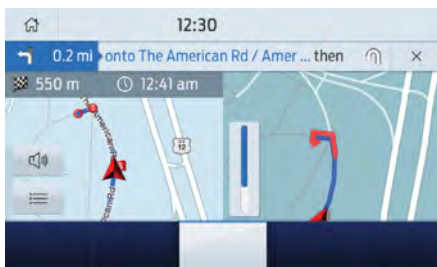
1. Select the search option on the map.
2. Set a destination.
3. Select **Add Waypoint**.
4. Select **Go**.

## Canceling Route Guidance



Select the route guidance menu option on the active guidance screen.

Select **Cancel Route**.



**Note:** The route guidance menu option is always in the bottom right-hand corner of the main map.

## cityseeker (If Equipped)

**Note:** cityseeker point of interest (POI) information is limited to approximately 1,110 cities (1,049 in the United States, 36 in Canada and 15 in Mexico).



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cityseeker, when available, is a service that provides more information about certain points of interest such as restaurants, hotels and attractions.

When you have selected a point of interest, the location and information appear, such as address, phone number and a star rating.

Press **More Information** to see a photo, a review, a list of services and facilities, the average room or meal price and the web address. This screen displays the point of interest icons.

For restaurants, cityseeker can provide information such as star rating, average cost, review, handicap access, hours of operation, and website address.

For hotels, cityseeker can provide information such as star rating, price category, review, check-in and checkout times, hotel service icons and website address. Hotel service icons include:

- Restaurant
- Business center
- Handicap facilities
- Laundry
- Refrigerator
- 24 hour room service
- Fitness center
- Internet access
- Pool
- Wi-Fi

Attractions include nearby landmarks, amusement parks, historic buildings and more. cityseeker can provide information such as star rating, reviews, hour of operation and admission price.

### **SiriusXM Traffic and Travel Link (If Equipped)**

SiriusXM Traffic and Travel Link is available on vehicles equipped with navigation and only in select markets. You must activate and subscribe to receive SiriusXM Traffic and Travel Link information. It helps you locate the best gas prices, find movie listings, get current traffic alerts, view the weather map, get accurate ski conditions and see current sports scores.

The system calculates a reasonable efficient route based on available speed limits, traffic, and road conditions. You may know a local short cut that is more efficient at a given time than the route provided by SYNC 3, but you should expect a slight difference in minutes or miles with the SYNC 3 route.

### **Michelin Travel Guide (If Equipped)**

The Michelin travel guide is a service which provides additional information about certain places of interest, for example restaurants, hotels and tourist sites. Points of interest that have Michelin travel guide information display a button to show you more information. Push the button to see the additional information. If you have paired your phone with the system, you can press the phone button to directly establish a call with the selected point of interest.

### **Navigation Map Accuracy and Updates**

HERE is the digital map provider for the navigation application. If you find map data errors, you may report them directly to HERE by going to [www.here.com](http://www.here.com). HERE evaluates all reported map errors and responds with the result of their investigation by e-mail.

The navigation system map data may contain inaccurate or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results. Inaccurate speed limit information, turn restrictions and other road attributes may affect the determined route and associated guidance

Annual navigation map updates are available for purchase through your dealership. Depending on your purchase agreement, you might be eligible for free Map update. You can choose to download the Map data update onto a USB, order a USB, or use Wi-Fi to deliver automatic updates. To update your Map data over Wi-Fi, your vehicle must be connected to a Wi-Fi access point. Map Data files are large, so it is highly recommended to perform the update when free Wi-Fi is available otherwise high data rates may apply. For USB updates, free map update eligibility, and other details, contact dealers at 1-866-462-8837 in the United States and Canada or 01-800-557-5539 in Mexico or visit our local website for more information.

### **APPS**

The system allows you interact with select mobile apps while keeping your eyes on the road. Voice commands, your steering wheel buttons, or a quick tap on your touchscreen give you advanced control of compatible mobile apps. You can also stream your favorite music or podcasts, share your time of arrival with friends, and keep connected safely.

When you start an app through the system for the first time, you could be asked to grant certain permissions. You can review and change the permissions that you have granted at any time when your vehicle is not moving. We recommend that you check your data plan before using your apps through the system. Using them could result in additional charges. We also recommend that you check the app provider's terms and conditions and privacy policy before using their app. Make sure that you have an active account for apps that you want to use through the system. Some apps will work with no setup. Others require you to configure some personal settings before you can use them.

**Note:** For more information about available apps, visit [catalog.ford.com](http://catalog.ford.com).

## Using Apps on an iOS Device



Select the apps option on the feature bar.

1. If your device is connected via USB, switch Apple CarPlay off. See **Phone** (page 413).
2. Connect your device to a USB port or pair and connect using Bluetooth.
3. If prompted to enable CarPlay, select **Disable**.
4. Start the apps on your device that you want to use through SYNC.

**Note:** If you close the apps on your device, you will not be able to use them through the system.

5. Select the app that you want to use on the touchscreen.

**Note:** Connect your device to a USB port if you want to use a navigation app. When using a navigation app, keep your device unlocked and the app open.

## Using Apps on an Android Device



Select the apps option on the feature bar.

1. If your device is connected via USB, switch Android Auto off. See **Phone** (page 413).
2. Pair your device. See **Phone** (page 413).
3. Start the apps on your device that you want to use through SYNC.

**Note:** If you close the apps on your device, you will not be able to use them through the system.

4. Select **Find Mobile Apps**.

**Note:** The system searches and connects to compatible apps that are running on your device.

5. Select the app that you want to use on the touchscreen.

**Note:** Mobile Apps on your device use the USB port to establish a connection with SYNC. Some devices may lose the ability to play music over USB when Mobile Apps are enabled.

## Using Mobile Navigation on an Android Device

1. Connect your device to a USB port.
2. Switch Android Auto off. See **Phone** (page 413).
3. Switch on **Enable Mobile Apps via USB** in the Mobile Apps Settings tile.
4. Select the apps option on the feature bar.
5. Select the navigation app that you want to use on the touchscreen.

**Note:** When using a navigation app, keep your device unlocked and the app open.



## SYNC™ 3 (If Equipped)

### SiriusXM Traffic and Travel Link (If Equipped)



**WARNING:** Driving while distracted can result in loss of vehicle control, crash and injury. We strongly recommend that you use extreme caution when using any device that may take your focus off the road. Your primary responsibility is the safe operation of your vehicle. We recommend against the use of any hand-held device while driving and encourage the use of voice-operated systems when possible. Make sure you are aware of all applicable local laws that may affect the use of electronic devices while driving.

**Note:** SiriusXM Traffic and Travel Link may not be available in all markets.

**Note:** In order to use SiriusXM Traffic and Travel Link, your vehicle must have navigation.

**Note:** A paid subscription is required to access and use these features. Go to [www.siriusxm.com/travellink](http://www.siriusxm.com/travellink) for more information.

**Note:** Visit [www.siriusxm.com/traffic](http://www.siriusxm.com/traffic) and click on Coverage map and details for a complete listing of all traffic areas covered by SiriusXM Traffic and Travel Link.

**Note:** Neither Sirius nor Ford is responsible for any errors or inaccuracies in the SiriusXM Traffic and Travel Link services or its use in vehicles.

When you subscribe to SiriusXM Traffic and Travel Link, it can help you locate the best gas prices, find movie listings, get current traffic alerts, view the current weather map, get accurate ski conditions and see scores to current sports games.

Menu Item	Action and Description	
Traffic on Route	Touch these buttons to identify traffic incidents on your route, near your vehicle's current location or near any of your favorite places, if programmed.	
Traffic Nearby		
Fuel Prices	Touch this button to view fuel prices at stations close to your vehicle's location or on an active navigation route.	
Movie Listings	Touch this button to view nearby movie theaters and their show times, if available.	
Weather	Touch this button to view the nearby weather, current weather, or the five-day forecast for the chosen area.	
	Map	Select to see the weather map, which can show storms, radar information, charts and winds.

## SYNCTM 3 (If Equipped)

Menu Item	Action and Description	
	Area	Select to choose from a listing of weather locations.
Sports Info	Touch this button to view scores and schedules from a variety of sports. You can also save up to 10 favorite teams for easier access. The score automatically refreshes when a game is in progress.	
Ski Conditions	Touch this button to view ski conditions for a specific area.	

### SETTINGS



Press the button to enter the settings menu.



Once you select a tile, press the button next to a menu item to view an explanation of the feature or setting.

#### Sound

Select this tile to adjust the sound settings.

#### Clock

Select this tile to adjust the clock settings.

#### Bluetooth®

Select this tile to switch **Bluetooth®** on and off and adjust the settings.

#### Phone

Select this tile to connect, disconnect, and manage the connected device settings.

#### Audio

Select this tile to adjust the audio settings.

#### Driver Assist (If Equipped)

Select this tile to adjust Driver Assist features like Parking Aids, Lane Keeping System, Pedestrian Detection, and Auto-Start-Stop.

#### Vehicle

Select this tile to adjust vehicle settings like windows, alarm, lighting, and MyKey settings.

#### FordPass

Select this tile to adjust the FordPass settings.

#### General

Select this tile to adjust settings like language, measurement units, or to reset the system.

#### 911 Assist (If Equipped)

Select this tile to switch 911 Assist on and off.

#### Automatic Updates

Select this tile to adjust the automatic update settings.

#### Mobile Apps

Select this tile to adjust permissions, enable, disable, and update mobile apps.

# SYNC™ 3 (If Equipped)

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## Display

Select this tile to adjust display settings like brightness and auto dim.

## Charge Settings (If Equipped)

Select this tile to adjust the electric vehicle charge settings.

## Voice Control

Select this tile to adjust voice control settings like command confirmations and displayed lists.

## Navigation (If Equipped)

Select this tile to adjust navigation settings like map preferences and route guidance.

## Multi Contour Seats (If Equipped)

Select this tile to adjust the position and massage function of your multi contour seats.

## Seats (If Equipped)

Select this tile to adjust the lumbar function of your seats.

## Message Center (If Equipped)

Select this tile to view vehicle messages.

## Personal Profiles (If Equipped)

Select this tile to adjust recalled memory features when using personal profiles.

## Valet Mode (If Equipped)

Select this tile to enable and disable valet mode.

## Ambient Lighting (If Equipped)

Select this tile to change the color or intensity of the interior lighting.

## SYNC™ 3 TROUBLESHOOTING

### Voice Recognition

Symptom	Possible Cause and Resolution
<p>The system does not understand what I am saying.</p>	<ul style="list-style-type: none"> <li>- You might not be using supported voice commands.                             <ul style="list-style-type: none"> <li>• See <b>Using Voice Recognition</b> (page 394).</li> <li>• For a complete list of voice commands, refer to our website.</li> </ul> </li> <li>- You might be speaking too soon.                             <ul style="list-style-type: none"> <li>• Wait for the voice prompt before you speak.</li> </ul> </li> </ul>
<p>The system does not understand the name of a track or artist.</p>	<ul style="list-style-type: none"> <li>- Device limitation. <b>Bluetooth®</b> does not support voice commands.                             <ul style="list-style-type: none"> <li>• Connect your device to a USB port.</li> <li>• If you have an iOS device, press and hold the voice control button on the steering wheel to use Siri to play specific tracks.</li> </ul> </li> <li>- You might not be using supported voice commands.                             <ul style="list-style-type: none"> <li>• See <b>Using Voice Recognition</b> (page 394).</li> <li>• For a complete list of voice commands, refer to our website.</li> </ul> </li> <li>- You might not be saying the name exactly as it appears on your device.                             <ul style="list-style-type: none"> <li>• Say the name of the track or artist exactly as it appears on your device. Spell out any abbreviations in the name.</li> </ul> </li> <li>- The name contains special characters, for example *, - or +.                             <ul style="list-style-type: none"> <li>• Rename the files on your device or use the touchscreen to select and play the track.</li> </ul> </li> </ul>
<p>The system does not understand the name of a contact in the phonebook on my device and calls the wrong contact.</p>	<ul style="list-style-type: none"> <li>- You might not be saying the name exactly as it appears on your device.                             <ul style="list-style-type: none"> <li>• Say the first and last name of the contact exactly as it appears on your device. Spell out any abbreviations in the name.</li> </ul> </li> <li>- The name contains special characters, for example *, - or +.                             <ul style="list-style-type: none"> <li>• Rename the contact on your device or use the touchscreen to select and call the contact.</li> </ul> </li> </ul>

## SYNC™ 3 (If Equipped)

Symptom	Possible Cause and Resolution
The system does not understand certain names of contacts in the phonebook on my device.	<ul style="list-style-type: none"><li>– You might not be saying the name exactly as it appears on your device.<ul style="list-style-type: none"><li>• Say the first and last name of the contact exactly as it appears on your device. The system applies phonetic pronunciation rules of the selected language to the names of contacts in the phonebook on your device. Select the name of the contact on the touchscreen and use the Hear it option to get an idea of how the system expects you to pronounce it.</li></ul></li></ul>
The system voice prompts and the pronunciation of some words do not seem to be very accurate.	<ul style="list-style-type: none"><li>– Device limitation.<ul style="list-style-type: none"><li>• The system uses text-to-speech technology and uses a synthetically generated voice rather than pre-recorded human voice.</li></ul></li></ul>

### USB and Bluetooth® Audio

Symptom	Possible Cause and Resolution
I cannot connect my device.	<ul style="list-style-type: none"><li>– Device malfunction.<ul style="list-style-type: none"><li>• Disconnect your device. Switch your device off and on to reset it and try again.</li></ul></li><li>– Cable connection issue.<ul style="list-style-type: none"><li>• Correctly connect the cable to your device and the vehicle USB port.</li></ul></li><li>– Incompatible cable.<ul style="list-style-type: none"><li>• Use the cable recommended by the manufacturer of your device.</li></ul></li></ul>

## SYNCTM 3 (If Equipped)

Symptom	Possible Cause and Resolution
	<ul style="list-style-type: none"> <li>– Incorrect device settings.               <ul style="list-style-type: none"> <li>• Make sure that your device does not have an auto-install program or active security settings.</li> <li>• Check that your device is not set only to charge.</li> </ul> </li> <li>– Device lock screen enabled.               <ul style="list-style-type: none"> <li>• Unlock your device before connecting it.</li> </ul> </li> </ul>
The system does not recognize my device.	<ul style="list-style-type: none"> <li>– Device limitation.               <ul style="list-style-type: none"> <li>• Do not leave your device in your vehicle during very hot or very cold weather conditions.</li> </ul> </li> <li>– Cable connection issue.               <ul style="list-style-type: none"> <li>• Correctly connect the cable to your device and the vehicle USB port.</li> </ul> </li> <li>– Incompatible cable.               <ul style="list-style-type: none"> <li>• Use the cable recommended by the manufacturer of your device.</li> </ul> </li> </ul>
The system does not understand the name of a track or artist.	<ul style="list-style-type: none"> <li>– Device limitation. <b>Bluetooth®</b> does not support voice commands.               <ul style="list-style-type: none"> <li>• Connect your device to a USB port.</li> <li>• If you have an iOS device, press and hold the voice control button on the steering wheel to use Siri to play specific tracks.</li> </ul> </li> </ul>
I cannot stream audio from my <b>Bluetooth®</b> device.	<ul style="list-style-type: none"> <li>– Incompatible device.               <ul style="list-style-type: none"> <li>• Check the compatibility of your device on our website.</li> </ul> </li> <li>– Device not connected.               <ul style="list-style-type: none"> <li>• Pair your device. See <b>Phone</b> (page 413).</li> </ul> </li> <li>– Media player not running.               <ul style="list-style-type: none"> <li>• Start the media player on your device.</li> </ul> </li> </ul>
The system does not recognize the music on my device.	<ul style="list-style-type: none"> <li>– Missing or incorrect audio file metadata, for example artist, song title, album or genre.               <ul style="list-style-type: none"> <li>• Repair the files on your device.</li> </ul> </li> <li>– Corrupt files.               <ul style="list-style-type: none"> <li>• Repair the files on your device.</li> </ul> </li> </ul>

## SYNC™ 3 (If Equipped)

Symptom	Possible Cause and Resolution
	<ul style="list-style-type: none"> <li>– Copyright-protected files.               <ul style="list-style-type: none"> <li>• Use a device that contains files that are not copyright protected.</li> </ul> </li> <li>– Unsupported file format.               <ul style="list-style-type: none"> <li>• Repair or convert the files to a supported format. See <b>Entertainment</b> (page 401).</li> </ul> </li> <li>– Device indexing required.               <ul style="list-style-type: none"> <li>• Re-index your device. See <b>Settings</b> (page 423).</li> </ul> </li> <li>– Device lock screen enabled.               <ul style="list-style-type: none"> <li>• Unlock your device before connecting it.</li> </ul> </li> </ul>
Sometimes I cannot hear a track playing on my device.	<ul style="list-style-type: none"> <li>– Device malfunction.               <ul style="list-style-type: none"> <li>• Disconnect your device. Switch your device off and on to reset it and try again.</li> </ul> </li> </ul>
When I disconnect my iOS device the audio volume is set to maximum.	<ul style="list-style-type: none"> <li>– Device limitation.               <ul style="list-style-type: none"> <li>• Turn the volume down on your device.</li> </ul> </li> </ul>
The system does not play the tracks on my USB drive in the correct order.	<p>If the system does not play the tracks on your USB device in the correct order, the following information could help:</p> <ul style="list-style-type: none"> <li>– If you are selecting USB as the audio source when the system is still indexing, SYNC plays tracks sorted alphabetically by file name in the root directory.</li> <li>– If you are selecting USB as the audio source after the system has finished indexing, SYNC plays all tracks sorted alphabetically by the title in the ID3 tag regardless of where they are located. SYNC uses the file name if the title in the ID3 tag does not exist.</li> <li>– If you are selecting the option to play all tracks from the browsing menu, SYNC plays all tracks sorted alphabetically by the title in the ID3 tag regardless of where they are located. SYNC uses the file name if the title in the ID3 tag does not exist.</li> <li>– If you are selecting a track when using the explore device option, SYNC plays tracks sorted alphabetically by file name in the folder you have selected. SYNC then plays all tracks in any subfolders in the folder you have selected.</li> </ul>

## SYNCTM 3 (If Equipped)

### Phone

Symptom	Possible Cause and Resolution
During a call, I can hear excessive background noise.	<ul style="list-style-type: none"><li>– Incorrect cell phone settings.<ul style="list-style-type: none"><li>• Check and adjust the audio settings on your cell phone. Refer to your cell phone's user manual.</li></ul></li></ul>
During a call, I can hear the other person but they cannot hear me.	<ul style="list-style-type: none"><li>– Cell phone malfunction.<ul style="list-style-type: none"><li>• Switch your cell phone on and off, and vehicle <b>Bluetooth</b>® on and off and try again.</li></ul></li><li>– Cell phone microphone muted.<ul style="list-style-type: none"><li>• Unmute your cell phone microphone.</li></ul></li></ul>
During a call, I cannot hear the other person and they cannot hear me.	<ul style="list-style-type: none"><li>– System restart required.<ul style="list-style-type: none"><li>• Switch the ignition off and open the door. Close the door and lock the vehicle. Wait until the touchscreen is off and any illuminated USB ports are not illuminated. Unlock the vehicle, switch the ignition on and try again.</li></ul></li></ul>
I cannot download a phone-book.	<ul style="list-style-type: none"><li>– Incompatible cell phone.<ul style="list-style-type: none"><li>• Check the compatibility of your cell phone on our website.</li></ul></li><li>– Incorrect cell phone settings.<ul style="list-style-type: none"><li>• Allow the system to retrieve contacts from your cell phone. Refer to your cell phone's user manual.</li></ul></li><li>– Incorrect system settings.<ul style="list-style-type: none"><li>• Switch automatic phonebook download on. See <b>Settings</b> (page 423).</li></ul></li><li>– Cell phone malfunction.<ul style="list-style-type: none"><li>• Switch your cell phone off and on to reset it and try again.</li></ul></li></ul>



## SYNC™ 3 (If Equipped)

Symptom	Possible Cause and Resolution
<p>A message displays suggesting that my phonebook has downloaded but it is empty or it has missing contacts.</p>	<ul style="list-style-type: none"> <li>– Incorrect cell phone settings.               <ul style="list-style-type: none"> <li>• Allow the system to retrieve contacts from your cell phone. Refer to your cell phone's user manual.</li> <li>• Check the location of the missing contacts on your cell phone. If they are stored on the SIM card, move them to the cell phone memory.</li> </ul> </li> <li>– Incorrect system settings.               <ul style="list-style-type: none"> <li>• Switch automatic phonebook download on. See <b>Settings</b> (page 423).</li> </ul> </li> </ul>
<p>I cannot connect my cell phone.</p>	<ul style="list-style-type: none"> <li>– Incompatible cell phone.               <ul style="list-style-type: none"> <li>• Check the compatibility of your cell phone on our website.</li> </ul> </li> <li>– Cell phone malfunction.               <ul style="list-style-type: none"> <li>• Switch your cell phone off and on to reset it and try again.</li> <li>• Install the latest cell phone firmware.</li> <li>• Delete your device from the system and delete SYNC from your device and try again.</li> <li>• Switch automatic phonebook download off. See <b>Settings</b> (page 423).</li> </ul> </li> </ul>
<p>Text messaging does not work.</p>	<ul style="list-style-type: none"> <li>– You might not have switched on text message notifications.               <ul style="list-style-type: none"> <li>• Switch text message notifications on. See <b>Phone</b> (page 413).</li> </ul> </li> <li>– Incompatible cell phone.               <ul style="list-style-type: none"> <li>• Check the compatibility of your cell phone on our website.</li> </ul> </li> <li>– Cell phone malfunction.               <ul style="list-style-type: none"> <li>• Switch your cell phone off and on to reset it and try again.</li> </ul> </li> </ul>
<p>I cannot hear text messages.</p>	<ul style="list-style-type: none"> <li>– Device message sharing is not enabled.               <ul style="list-style-type: none"> <li>• Check the permissions on your device to ensure text message sharing is enabled.</li> </ul> </li> <li>– Incompatible cell phone.               <ul style="list-style-type: none"> <li>• Check the compatibility of your cell phone on our website.</li> </ul> </li> </ul>

## SYNCTM 3 (If Equipped)

### Navigation (If Equipped)

Symptom	Possible Cause and Resolution
I cannot enter a street name when I am abroad.	– Incorrect entry method. <ul style="list-style-type: none"><li>• Enter the street name with the country.</li></ul>
The system does not recognize coordinates.	– Using the wrong coordinates format. <ul style="list-style-type: none"><li>• Use the format ##. #####, ##. ##### (for N/S, E/W). Add a minus before coordinates if the direction is West and keep a positive value if the direction is East, for example 12.5412 means East and -12.5412 means West.</li></ul>

## SYNC™ 3 (If Equipped)

### Apps

Symptom	Possible Cause and Resolution
The system cannot find any apps.	<ul style="list-style-type: none"> <li>– Incompatible device.                             <ul style="list-style-type: none"> <li>• You need an Android device with OS 4.3 or higher or an iOS device with iOS 8.0 or higher. Pair and connect your Android device to find compatible apps. Connect your iOS device to a USB port or pair and connect using <b>Bluetooth®</b>.</li> </ul> </li> </ul>
I have a compatible device and it is correctly connected but the system still cannot find any apps.	<ul style="list-style-type: none"> <li>– Compatible apps are not installed on your device.                             <ul style="list-style-type: none"> <li>• Download and install the latest version of the app.</li> </ul> </li> <li>– Compatible apps are not running on your device.                             <ul style="list-style-type: none"> <li>• Start the apps to allow the system to find them and make sure you sign in to any apps if required.</li> </ul> </li> <li>– Incorrect app settings.                             <ul style="list-style-type: none"> <li>• Check and adjust the app settings on your device and allow SYNC to access the app if required.</li> </ul> </li> </ul>
I have a compatible device, it is correctly connected and my apps are running but the system still cannot find any apps.	<ul style="list-style-type: none"> <li>– Apps failed to fully close.                             <ul style="list-style-type: none"> <li>• Restart the apps and try again.</li> <li>• If you have an Android device with apps that have an exit or quit option, use this and then restart the apps. Alternatively, use the force stop option in the settings menu on your device.</li> <li>• If you have an iOS device with iOS 8.0 or higher, tap the home button on your device twice and then swipe the app upward to close it.</li> </ul> </li> </ul>
I have an Android device that is correctly connected, I have restarted my apps and they are running but the system still cannot find them.	<ul style="list-style-type: none"> <li>– An issue on some older versions of the Android operating system could result in apps not being found.                             <ul style="list-style-type: none"> <li>• Switch <b>Bluetooth®</b> off and on again to force the system to reconnect to your device.</li> </ul> </li> </ul>

## SYNCTM 3 (If Equipped)

Symptom	Possible Cause and Resolution
I have an iOS device that is correctly connected, I have restarted my apps and they are running but the system still cannot find them.	<ul style="list-style-type: none"><li>- Cable connection issue.<ul style="list-style-type: none"><li>• Disconnect the cable from your device, wait for a moment and then connect it again to force the system to reconnect to your device.</li></ul></li></ul>
I have an Android device running a media app which the system has found but I cannot hear the sound or the sound is very quiet.	<ul style="list-style-type: none"><li>- Device volume is low.<ul style="list-style-type: none"><li>• Turn the volume up on your device.</li></ul></li></ul>
I have an Android device running a number of compatible apps but the system cannot find all of them.	<ul style="list-style-type: none"><li>- Device limitation. If you have more apps running on your device than the number of available <b>Bluetooth®</b> links, the system cannot find all of them.<ul style="list-style-type: none"><li>• Close some of the apps to allow the system to find those that you want to use.</li></ul></li></ul>

## Wi-Fi Connectivity

Symptom	Possible Cause and Resolution
I cannot connect to a Wi-Fi network.	<ul style="list-style-type: none"> <li>– Password error.               <ul style="list-style-type: none"> <li>• Enter the correct network password.</li> </ul> </li> <li>– Weak network signal.               <ul style="list-style-type: none"> <li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li> </ul> </li> <li>– Multiple access points in range with the same SSID.               <ul style="list-style-type: none"> <li>• Use a unique name for your SSID. Do not use the default name unless it contains a unique identifier, for example as part of the MAC address.</li> </ul> </li> </ul>
The Wi-Fi connection disconnects after successful connection.	<ul style="list-style-type: none"> <li>– Weak network signal.               <ul style="list-style-type: none"> <li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li> </ul> </li> </ul>
I am close to a Wi-Fi hotspot but the network signal strength is weak.	<ul style="list-style-type: none"> <li>– Obstructed network signal.               <ul style="list-style-type: none"> <li>• If your vehicle has a heated windshield, position your vehicle so that the windshield is not facing the Wi-Fi hotspot.</li> <li>• 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 hotspot or open the windows that are facing the hotspot.</li> <li>• If your vehicle has metallic tinting on the windows and the windshield, open the windows that are facing the hotspot.</li> <li>• If your vehicle is in a garage and you have the garage door closed, open the garage door.</li> </ul> </li> </ul>
I cannot see a network in the list of available networks that I expect to see.	<ul style="list-style-type: none"> <li>– Hidden network.               <ul style="list-style-type: none"> <li>• Make the network visible and try again.</li> </ul> </li> </ul>

## SYNC™ 3 (If Equipped)

Symptom	Possible Cause and Resolution
I cannot see SYNC when I search for Wi-Fi networks on my cell phone or other device.	<ul style="list-style-type: none"> <li>– System limitation.                             <ul style="list-style-type: none"> <li>• SYNC does not provide a Wi-Fi hotspot at this time.</li> </ul> </li> </ul>
Software downloads take too long.	<ul style="list-style-type: none"> <li>– Weak network signal                             <ul style="list-style-type: none"> <li>• Move your vehicle closer to the Wi-Fi hotspot or to a place where the network signal is not obstructed.</li> </ul> </li> <li>– Wi-Fi hotspot in high demand or has a slow Internet connection.                             <ul style="list-style-type: none"> <li>• Use a more reliable Wi-Fi hotspot.</li> </ul> </li> </ul>
The system seems to connect to a Wi-Fi network and the signal strength is excellent but the software does not update.	<ul style="list-style-type: none"> <li>– No software update available.</li> <li>– Wi-Fi network requires a subscription or acceptance of terms and conditions.                             <ul style="list-style-type: none"> <li>• Test the connection using another device. If the network requires a subscription or acceptance of terms and conditions, contact the network service provider.</li> </ul> </li> </ul>

### Personal Profiles (If Equipped)

Symptom	Possible Cause and Resolution
I cannot create a profile.	You might not have set up Personal Profiles.
	You might have entered an invalid profile.
	You might not have selected a memory button when prompted.
	You might not have the ignition on or in park (P), or you shifted out park (P) when creating a profile.
	Personal Profiles has been switched off.
I cannot link a remote control.	You might not have selected the lock button on the remote control.
	The remote control selected was already associated with another profile and the system declined to overwrite.
	The system performed a profile recall when linking a remote control.

## SYNC™ 3 (If Equipped)

Symptom	Possible Cause and Resolution
	You might not have the ignition on or in park (P), or you shifted out park (P) when creating a profile.
	You might be using the old linking method.
My personalized settings do not save.	Personal Profiles does not support your unsaved settings.
	A different personal profile is active.
	Another user changed the settings for the wrong personal profile.
My profile will not recall.	You might not have created a personal profile.
	Personal Profiles is turned off.
	The profile you requested is already active.
	You might not have linked the memory button you are using to a profile.
	You might not have linked the remote control you are using to a profile.
	You might be using the wrong remote control.
	You might be pressing a button other than the unlock or remote start on a linked remote control.
	You might have deleted the personal profile.
My preset positions recall, but my profile does not.	Personal Profiles is turned off.
My profile recalls but my preset positions do not.	The vehicle is in motion.
	The preset positions are the same as the guest or previously active profile.
I lost a remote control.	Unlink and relink your remote control in the Personal Profiles menu. You may need to see your authorized dealer.
I lost all profiles.	You might have erased and reprogrammed the remote controls. This could happen if you let a dealership add a new remote control to replace a lost one.
	Someone performed a master reset.

### Resetting the System

1. Simultaneously press and hold the seek up and the audio unit power buttons until the screen goes black.
2. Wait three minutes to allow the system to complete the reset.
3. Press the audio unit power button to switch the system on.

**Note:** *You can reset the system to restore functionality that has stopped working. The system reset is designed to restore functionality and not delete any data that you have stored.*

### Additional Information and Assistance

For additional information and assistance, we recommend that you contact an authorized dealer or refer to our website.



# Accessories

For a complete listing of the accessories that are available for your vehicle, please contact your authorized dealer or visit the online store web site:

<b>Web Address (United States)</b>
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<a href="http://www.Accessories.Ford.com">www.Accessories.Ford.com</a>
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<b>Web Address (Canada)</b>
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<a href="http://www.Accessories.Ford.ca">www.Accessories.Ford.ca</a>
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We will repair or replace any properly authorized dealer-installed Ford Original Accessory found to be defective in factory-supplied materials or workmanship during the warranty period, as well as any component damaged by the defective accessories.

We will warrant your Ford Original Accessory through the warranty that provides the greatest benefit:

- 24 months, unlimited mileage.
- The remainder of your new vehicle limited warranty.

Contact an authorized dealer for details and a copy of the warranty.

Ford Licensed Accessories are the accessory manufacturer's designs. The manufacturer develops and therefore warrants Ford Licensed Accessories, and does not design or test these accessories to Ford Motor Company engineering requirements. Contact an authorized Ford dealer for the manufacturer's limited warranty details, and request a copy of the Ford Licensed Accessories product limited warranty from the accessory manufacturer.

For maximum vehicle performance, keep the following information in mind when adding accessories or equipment to your vehicle:

- When adding accessories, equipment, passengers and luggage to your vehicle, do not exceed the total weight capacity of the vehicle or of the front or rear axle (GVWR or GAWR as indicated on the Safety Compliance Certification label). Ask an authorized dealer for specific weight information.
- The Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulate the use of mobile communications systems that are equipped with radio transmitters, for example two-way radios, telephones and theft alarms. Any such equipment installed in your vehicle should comply with Federal Communications Commission (FCC) and Canadian Radio Telecommunications Commission (CRTC) regulations and should be installed only by an authorized dealer.
- An authorized dealer needs to install mobile communications systems. Improper installation may harm the operation of your vehicle, particularly if the manufacturer did not design the mobile communication system specifically for automotive use.
- If you or an authorized Ford dealer add any non-Ford electrical or electronic accessories or components to your vehicle, you may adversely affect battery performance and durability. In addition, you may also adversely affect the performance of other electrical systems in the vehicle.

# Ford Protect

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PROTECT YOURSELF FROM THE RISING COST OF VEHICLE REPAIRS WITH A FORD PROTECT EXTENDED SERVICE PLAN.

## **Ford Protect Extended Service Plans (U.S. Only)**

Ford Protect extended service plan means peace of mind. It's the extended service plan backed by Ford Motor Company, and provides more protection beyond the New Vehicle Limited Warranty coverage. When you visit your Ford Dealer, Insist on Ford Protect extended service plans!

## **Ford Protect Can Quickly Pay for Itself**

One trip to the Service Center could easily exceed the price of your Ford Protect extended service plan. With Ford Protect extended service plan you minimize your risk for unexpected repair bills and rising repair costs.

## **Up to 1,000+ Covered Vehicle Components**

There are four mechanical Ford Protect extended service plans with different levels of coverage. Ask your authorized dealer for details.

1. PremiumCARE - Our most comprehensive coverage. With over 1,000 covered components, this plan is so complete it's probably easier to list what's not covered.
2. ExtraCARE - Covers 113 components, and includes many high-tech items.
3. BaseCARE - Covers 84 components.
4. PowertrainCARE - Covers 29 critical components.

Ford Protect extended service plans are honored by all authorized Ford dealers in the U.S., Canada and Mexico.

That means you get:

- Reliable, quality service at any Ford or Lincoln dealership.
- Repairs performed by factory trained technicians, using genuine parts.

## **Rental Car Reimbursement**

### ***1st day Rental Benefit***

If you bring your car into your dealer for service, we'll give you a loaner to use for the day.

### ***Extended Rental Benefits***

If your vehicle is kept overnight for covered repairs, you are eligible for rental car coverage, including warranty repairs, and Field Service Actions.

## **Roadside Assistance**

Exclusive 24/7 roadside assistance, including:

- Towing, flat-tire change and battery jump starts.
- Out of fuel and lock-out assistance.
- Travel expense reimbursement for lodging, meals and rental car.
- Assistance for taxi, shuttle, rental car coverage or other transportation.

## **Transferable Coverage**

If you sell your vehicle before your Ford Protect extended service plan coverage expires, you can transfer any remaining coverage to the new owner. Which should give you and your potential buyer a little more peace of mind.

# Ford Protect

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## Less Cost to Properly Maintain Your Vehicle

Ford Protect extended service plan also offers a Premium Maintenance Plan that covers all scheduled maintenance, and selected wear items. The coverage is prepaid, so you never have to worry about the cost of your vehicle's maintenance.

Covered maintenance includes:

- Windshield wiper blades.
- Spark plugs.
- The clutch disc (if equipped).
- Brake pads and linings.
- Shock absorbers.
- Struts.
- Engine Belts.
- Engine coolant hoses, clamps and o-rings.
- Diesel exhaust fluid replenishment (if equipped).
- Cabin air filter replacement every 20,000 mi (32,000 km) (electric vehicles only).

## Interest Free Finance Options

Just a 5% down payment will provide you with an affordable, no interest, no fee payment program allowing you all the security and benefits Ford Protect extended service plan has to offer while paying over time. You are pre-approved with no credit check or hassles. To learn more, call our Ford Protect extended service plan specialists at 800-367-3377.

Ford Protect Extended Service Plan  
P.O. Box 321067  
Detroit, MI 48232

## Ford Protect Extended Service Plan (CANADA ONLY)

You can get more protection for your vehicle by purchasing a Ford Protect extended service plan. Ford Protect extended service plan is the only service contract backed by Ford Motor Company of Canada, Limited. Depending on the plan you purchase, Ford Protect extended service plan provides benefits such as:

- Rental reimbursement.
- Coverage for certain maintenance and wear items.
- Protection against repair costs after your New Vehicle Limited Warranty Coverage expires.
- Roadside Assistance benefits.

There are several Ford Protect extended service plans available in various time, distance and deductible combinations. Each plan is tailored to fit your own driving needs, including reimbursement for towing and rental. When you purchase Ford Protect extended service plan, you receive added peace-of-mind protection throughout Canada, the United States and Mexico, provided by a network of participating authorized Ford Motor Company dealers.

**Note:** *Repairs performed outside of Canada and the United States are not eligible for Ford Protect extended service plan coverage.*

This information is subject to change. For more information; visit your local Ford of Canada dealer or [www.ford.ca](http://www.ford.ca) to find the Ford Protect extended service plan that is right for you.

# Scheduled Maintenance

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## GENERAL MAINTENANCE INFORMATION

### Why Maintain Your Vehicle?

Carefully following the maintenance schedule helps protect against major repair expenses resulting from neglect or inadequate maintenance and may help to increase the value of your vehicle when you sell or trade it. Keep all receipts for completed maintenance with your vehicle.

We have established regular maintenance intervals for your vehicle based upon rigorous testing. It is important that you have your vehicle serviced at the proper times. These intervals serve two purposes; one is to maintain the reliability of your vehicle and the second is to keep your cost of owning your vehicle down.

It is your responsibility to have all scheduled maintenance performed and to make sure that the materials used meet the specifications identified in this owner's manual. See **Capacities and Specifications** (page 335).

Failure to perform scheduled maintenance invalidates warranty coverage on parts affected by the lack of maintenance.

### Why Maintain Your Vehicle at Your Dealership?

#### Factory-Trained Technicians

Service technicians participate in extensive factory-sponsored certification training to help them become experts on the operation of your vehicle. Ask your dealership about the training and certification their technicians have received.

### Genuine Ford and Motorcraft® Replacement Parts

Dealerships stock Ford, Motorcraft and Ford-authorized branded re-manufactured replacement parts. These parts meet or exceed our specifications. Parts installed at your dealership carry a nationwide 24-month or unlimited mile (kilometer) parts and labor limited warranty.

If you do not use Ford authorized parts they may not meet our specifications and depending on the part, it could affect emissions compliance.

### Convenience

Many dealerships have extended evening and Saturday hours to make your service visit more convenient and they offer one stop shopping. They can perform any services that are required on your vehicle, from general maintenance to collision repairs.

**Note:** *Not all dealers have extended hours or body shops. Please contact your dealer for details.*

### Protecting Your Investment

Maintenance is an investment that pays dividends in the form of improved reliability, durability and resale value. To maintain the proper performance of your vehicle and its emission control systems, make sure you have scheduled maintenance performed at the designated intervals.

Your vehicle is equipped with an intelligent oil-life monitor that determines oil life based on engine operating conditions.

# Scheduled Maintenance

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- Under normal operating conditions, a message appears in the information display to indicate the regular oil change interval.
- Under severe operating conditions, the oil change interval may reduce, and the message interval may adjust.

High performance vehicles can be driven in such a way that may lead to higher oil consumption (this includes extended time at high engine speeds, high loads, engine braking, hard cornering maneuvers, and track use). Under these conditions, oil consumption of approximately 1 quart per 500 miles (1 liter per 800 km) is possible. As a result, the engine oil level needs to be checked at every refueling and adjusted to maintain proper level to avoid engine damage.

**Note:** *Oil level should not exceed the maximum mark on the indicator. See **Engine Oil Check** (page 261).*

When the oil change message appears in the information display, it is time for an oil change. Make sure you perform the oil change within two weeks or 500 mi (800 km) of the message appearing. Make sure you reset the Intelligent Oil-Life Monitor after each oil change. See **Oil Change Indicator Reset** (page 261).

If your information display resets prematurely or becomes inoperative, you should perform the oil change interval at six months or 5,000 mi (8,000 km) from your last oil change. Never exceed one year or 10,000 mi (16,000 km) between oil change intervals.

Your vehicle is very sophisticated and built with multiple, complex, performance systems. Every manufacturer develops these systems using different specifications and performance features. That is why it is important to rely upon your dealership to properly diagnose and repair your vehicle.

Ford Motor Company has recommended maintenance intervals for various parts and component systems based upon engineering testing. Ford Motor Company relies upon this testing to determine the most appropriate mileage for replacement of oils and fluids to protect your vehicle at the lowest overall cost to you and recommends against maintenance schedules that deviate from the scheduled maintenance information.

We strongly recommend the use of only genuine Ford, Motorcraft or Ford-authorized re-manufactured replacement parts engineered for your vehicle.

## Additives and Chemicals

This owner's manual and the Ford Workshop Manual list the recommended additives and chemicals for your vehicle. We do not recommend using chemicals or additives not approved by us as part of your vehicle's normal maintenance. Please consult your warranty information.

## Oils, Fluids and Flushing

In many cases, fluid discoloration is a normal operating characteristic and, by itself, does not necessarily indicate a concern or that the fluid needs to be changed. However, a qualified expert, such as the factory-trained technicians at your dealership, should inspect discolored fluids that also show signs of overheating or foreign material contamination immediately.

# Scheduled Maintenance

Make sure to change your vehicle's oils and fluids at the specified intervals or in conjunction with a repair. Flushing is a viable way to change fluid for many vehicle sub-systems during scheduled maintenance. It is critical that systems are flushed only with new fluid that is the same as that required to fill and operate the

system or using a Ford-approved flushing chemical.

## Owner Checks and Services

Make sure you perform the following basic maintenance checks and inspections every month or at six-month intervals.

<b>Check every month</b>
Engine oil level.
For severe use, high engine speed and engine loads, engine braking and track use, check engine oil level every fuel fill-up.
Function of all interior and exterior lights.
Tires, including spare, for wear and proper pressure.
Windshield washer fluid level.

<b>Check every six months</b>
Battery connections. Clean if necessary.
Body and door drain holes for obstructions. Clean if necessary.
Cooling system fluid level and coolant strength.
Door weatherstrips for wear. Lubricate if necessary.
Hinges, latches and outside locks for proper operation. Lubricate if necessary.
Parking brake for proper operation.
Seatbelts and seat latches for wear and function.
Safety warning lamps operation for brake, ABS, airbag and seatbelt.
Washer spray and wiper operation. Clean or replace blades as necessary.

# Scheduled Maintenance

## Multi-Point Inspection

In order to keep your vehicle running right, it is important to have the systems on your vehicle checked regularly. This can help identify potential issues and prevent major

problems. We recommend having the following multi-point inspection performed at every scheduled maintenance interval to help make sure your vehicle keeps running great.

Multi-Point inspection	
Accessory drive belts.	Hazard warning system operation.
Battery performance.	Horn operation.
Engine air filter.	Radiator, cooler, heater and air conditioning hoses.
Exhaust system.	Suspension components for leaks or damage.
Exterior lamps operation.	Steering and linkage.
Fluid levels; fill if necessary. <sup>1</sup>	Tires, including spare, for wear and proper pressure. <sup>2</sup>
For oil and fluid leaks.	Windshield for cracks, chips or pits.
Half-shaft dust boots.	Washer spray and wiper operation.

<sup>1</sup> Brake, coolant recovery reservoir, automatic transmission and window washer.

<sup>2</sup> If your vehicle is equipped with a temporary mobility kit, check the tire sealant expiration Use By date on the canister. Replace as needed.

Be sure to ask your dealership service advisor or technician about the multi-point vehicle inspection. It is a comprehensive way to perform a thorough inspection of your vehicle. Your checklist gives you immediate feedback on the overall condition of your vehicle.

## NORMAL SCHEDULED MAINTENANCE

### Intelligent Oil-Life Monitor™

Your vehicle has an Intelligent Oil-Life Monitor that determines when you should change the engine oil based on how you use your vehicle. By using several important factors in its calculations, the monitor helps reduce the cost of owning your vehicle and reduces environmental waste at the same time.

# Scheduled Maintenance

This means you do not have to remember to change the oil on a mileage-based schedule. Your vehicle lets you know when an oil change is due by displaying a message in the information display.

The following table provides examples of vehicle use and its impact on oil change intervals. It is a guideline only. Actual oil change intervals depend on several factors and generally decrease with severity of use.

<b>When to expect the message prompting you to change your oil</b>	
<b>Interval</b>	<b>Vehicle Use and Example</b>
7,000–10,000 mi (11,000–16,000 km)	<b>Normal</b>
	Normal commuting with highway driving. No, or moderate, load or towing. Flat to moderately hilly roads. No extended idling.
5,000–7,500 mi (8,000–12,000 km)	<b>Severe</b>
	Moderate to heavy load or towing. Mountainous or off-road conditions. Extended idling. Extended hot or cold operation. High engine speeds and loads, engine braking and hard cornering.
3,000–5,000 mi (4,800–8,000 km)	<b>Extreme</b>
	Maximum load or towing. Extreme hot or cold operation.

## Normal Maintenance Intervals

<b>At every oil change interval as indicated by the information display <sup>1</sup></b>
Change the engine oil and filter. <sup>2</sup>
Rotate tires, inspect tire wear and measure the tread depth.
Perform a multi-point inspection, recommended.
Inspect the automatic transmission fluid level if your vehicle has a dipstick. Consult your dealer for requirements.
Inspect the brake pads, rotors, hoses and the parking brake.
Inspect the engine cooling system strength and hoses.



# Scheduled Maintenance

<b>At every oil change interval as indicated by the information display<sup>1</sup></b>
Inspect the exhaust system and heat shields.
Inspect rear axle and U-joints. Lubricate if your vehicle has grease fittings.
Inspect the half-shaft boots.
Inspect the steering linkage, ball joints, suspension, tie-rod ends, driveshaft and U-joints. Lubricate any areas with grease fittings.
Inspect the wheels and related components for abnormal noise, wear, looseness or drag.

<sup>1</sup> Do not exceed one year or 10,000 mi (16,000 km) between service intervals.

<sup>2</sup> Reset the Intelligent Oil-Life Monitor after engine oil and filter changes.

<b>Brake Fluid Maintenance<sup>1</sup></b>	
Every three Years	Change the brake fluid. <sup>2</sup>

<sup>1</sup> Perform this maintenance item every three years. Do not exceed the designated time for the interval.

<sup>2</sup> Brake fluid servicing requires special equipment available at your authorized dealer.

<b>Other Maintenance Items<sup>1</sup></b>	
Every 20,000 mi (32,000 km)	Replace the cabin air filter.
Every 30,000 mi (48,000 km)	Replace the engine air filter.
Every 100,000 mi (160,000 km)	Replace the spark plugs.
	Inspect the accessory drive belts. <sup>2</sup>
Every 150,000 mi (240,000 km)	Change the automatic transmission fluid and filter.
	Change the manual transmission fluid.
	Replace the accessory drive belts.

## Scheduled Maintenance

Other Maintenance Items <sup>1</sup>	
	Change the rear axle fluid.
At 200,000 mi (320,000 km)	Change the engine coolant. <sup>3</sup>

<sup>1</sup> Perform these maintenance items within 3,000 mi (4,800 km) of the last engine oil and filter change. Do not exceed the designated distance for the interval.

<sup>2</sup> After initial inspection, inspect every other oil change until replaced.

<sup>3</sup> Initial replacement at 10 years or 200,000 mi (320,000 km), then every 5 years or 100,000 mi (160,000 km).

### Track Use Maintenance Intervals

Follow these maintenance intervals for when you use your vehicle on a track or in a high-speed event.

In addition to the recommendations below, we recommend following the procedures previously outlined in the Normal Maintenance Intervals section to help keep your vehicle running right, to identify potential issues, and to prevent major problems.

Interval	Vehicle Use and Example
One track weekend or approximately four hours of track use	Change the engine oil and filter.
Every 500 mi (800 km)	Change the rear axle fluid. <sup>1</sup>

<sup>1</sup> Change the fluid every 500 mi (800 km) or when a message appears in the information display stating that the axle fluid is overtemperature.

## SPECIAL OPERATING CONDITIONS SCHEDULED MAINTENANCE

If you operate your vehicle primarily in any of the following conditions, you need to perform extra maintenance, as indicated. If you operate your vehicle occasionally under any of these conditions, it is not necessary to perform the extra maintenance. For specific recommendations, see your dealership service advisor or technician.

## Scheduled Maintenance

<b>Towing a Trailer or Using a Car-top Carrier</b>	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Inspect rear axle and U-joints. Lubricate if equipped with grease fittings.
	See axle maintenance items under, Exceptions.
Every 60,000 mi (96,000 km)	Change manual transmission fluid.
	Replace spark plugs.

<b>Extensive Idling or Low-speed Driving for Long Distances, as in Heavy Commercial Use Such as Delivery, Taxi, Patrol Car or Livery</b>	
As required	Change engine oil and filter as indicated by the information display and perform services listed in the Normal Scheduled Maintenance chart.
Inspect frequently, service as required	Replace cabin air filter.
Every 15,000 mi (24,000 km)	Inspect engine air filter. Replace as required.
Every 60,000 mi (96,000 km)	Replace spark plugs.

<b>Operating in Dusty or Sandy Conditions Such as Unpaved or Dusty Roads</b>	
Inspect frequently, service as required	Replace cabin air filter.
Every 15,000 mi (24,000 km)	Inspect engine air filter. Replace as required.
Every 5,000 mi (8,000 km)	Inspect the wheels and related components for abnormal noise, wear, looseness or drag.
	Rotate tires, inspect tires for wear and measure tread depth.

# Scheduled Maintenance

<b>Operating in Dusty or Sandy Conditions Such as Unpaved or Dusty Roads</b>	
Every 5,000 mi (8,000 km) or six months	Change engine oil and filter. <sup>1</sup>
Every 50,000 mi (80,000 km)	Change manual transmission fluid.

<sup>1</sup>Reset your Intelligent Oil-Life Monitor after each engine oil and filter change.

<b>Exclusive Use of E85 - Flex Fuel Vehicles Only</b>	
Every oil change interval	If ran exclusively on E85, fill the fuel tank full of regular unleaded fuel.

## Exceptions

There are several exceptions to the Normal Schedule:

### Axle Maintenance

Change the axle fluid anytime an axle is submerged in water.

If you receive an axle overtemperature warning message in the information display and a wrench warning indicator appears, you should change the rear axle fluid at the next convenient time. The wrench warning indicator turns off when you switch off your vehicle.

### Timing Chain

If you use your vehicle extensively at a racetrack or at high rpm, it is possible to exceed the service life of the engine timing chain. A wrench indicator light will illuminate when it is time for you to replace your chain. See an authorized dealer.

## California Fuel Filter Replacement

If you register your vehicle in California, the California Air Resources Board has determined that the failure to perform this maintenance item does not nullify the emission warranty or limit recall liability before the completion of your vehicle's useful life. Ford Motor Company, however, urges you to have all recommended maintenance services performed at the specified intervals and to record all vehicle service.

## Hot Climate Oil Change Intervals

Vehicles operating in the Middle East, North Africa, Sub-Saharan Africa or locations with similar climates using an American Petroleum Institute (API) Certified for Gasoline Engines (Certification mark) oil of SM or SN quality, the normal oil change interval is 3,000 mi (4,800 km).

If the available API SM or SN oils are not available, then the oil change interval is 1,800 mi (2,900 km).

# Scheduled Maintenance

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## **Engine Air Filter and Cabin Air Filter Replacement**

The life of the engine air filter and cabin air filter is dependent on exposure to dusty and dirty conditions. Vehicles operated in these conditions require frequent inspection and replacement of the engine air filter and cabin air filter.

# Customer Information

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## RADIO FREQUENCY CERTIFICATION LABELS

## BLIND SPOT INFORMATION SYSTEM SENSORS

### Argentina



### Belarus



### Brazil



### Canada

Short Range Radar Sensor SRR3-B

IC ID: 4135A-SRR3B

# Customer Information

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This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Radiofrequency radiation exposure information:

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 8 in (20 cm) between the radiator and the body of any persons, user or bystander.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet équipement est conforme aux limites d'exposition aux rayonnements établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 8 in (20 cm) de distance entre la source de rayonnement et votre corps.

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 240/MCPT/SG/16  
Date d'agrément : 23/05/2016

## European Union EU

CE

# Customer Information

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## Ghana

NCA PRODUCT IDENTIFIER: 3R8-8M-7DF-231

## Mauritania

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0727/ARE/2018  
Date d'agrément : 10/12/2019

## Jamaica

This product has been Type Approved  
by Jamaica: SMA - SRR3-B.

## Malaysia



RALM/24A/0715/S(15-2272)

## Mexico

IFETEL: RLVCSR15-0904

La operación de este equipo está sujeta a las siguientes  
dos condiciones:

- (1) es posible que este equipo o dispositivo no cause  
interferencia perjudicial y
- (2) este equipo o dispositivo debe aceptar cualquier  
interferencia, incluyendo la que pueda causar  
su operación no deseada.

## Moldova





# Customer Information

## Pakistan



## Serbia



## Paraguay



## Singapore

Complies with IMDA Standards

DA 00461

## Russia



## South Africa

TA-2015/444  
APPROVED



# Customer Information

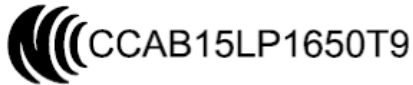
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## South Korea



MSIP-CRM-8DC-SRR3B

## Taiwan, China



### 警語

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

# Customer Information

## Ukraine



This one is a bit new. I requires the logo and the following text (both in attached also):

справжнім fIDC. Automotive Distance Control Systems GmbH заявляє, що тип радіобладнання SRR3 - В відповідає технічному регламенту радіобладнання ;

повний текст декларації про відповідність доступний на веб-сайті за такою адресою :

<http://continental.automotive-approvals.com/>

## United Arab Emirates (U.A.E.)

TRA  
REGISTERED No:  
ER62934

DEALER No:  
DA40068

## CAUTION TO USERS

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Vietnam



## United States of America

FCC ID: OAYSRR3B

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

# Customer Information

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## Zambia



## Ghana

NCA PRODUCT IDENTIFIER: ZRO-M8-7E3-281

## BODY CONTROL MODULE

### Argentina



## Jamaica

This product has been Type Approved by Jamaica: SMA - M3NA2C766336.

## Brazil



## Moldova



# Customer Information

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## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 20148 ANRT 2019  
Date d'agrément: 19/06/2019

## Singapore

Complies with IMDA Standards

DA 00461

## Paraguay



2019-01-I-000076

## Serbia



## South Africa



## Ukraine



# Customer Information

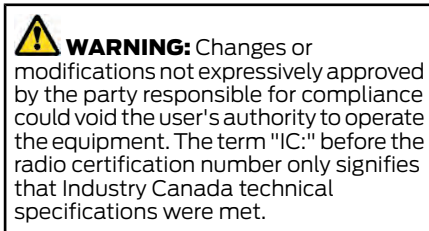
## United Arab Emirates (U.A.E.)

TRA  
REGISTERED No: ER68566/19  
DEALER No: DA37380/15

## Vietnam



## United States and Canada



FCC ID: M3NA2C766336

IC: 7812A-A2C766336

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia



## CRUISE CONTROL MODULE

### Argentina



# Customer Information

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## Brazil



## Jamaica

This product has been Type Approved by Jamaica: SMA - L2C0065TR.

## Malaysia



RALM/61A/0318/S(18-0852)

## Mauritania

AGREE PAR L'ANEMAURITANIE  
Numéro d'agrément: 0409/ARE/2017  
Date d'agrément: 12/04/2017

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 594/dpt/2017  
Date d'agrément : 09/04/2017

## Ghana

NCA PRODUCT IDENTIFIER: OR2-9H-7E1-x4D

## Indonesia

SERTIFIKAT NOMOR : 53104/SDPPI/2017  
PLG ID: 4927



# Customer Information

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## Moldova



## Paraguay



## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 13639 ARNT 2017  
Date d'agrément: 28/03/2017

## Serbia



## Pakistan



## Singapore

Complies with IMDA Standards  
DA105753



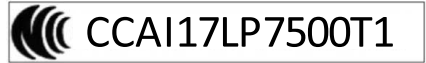
## Customer Information

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### South Africa



### Taiwan, China



### South Korea



R-CMM-DLH-L2C0065TR

### Syria

SyTRA  
REGISTERED No:  
FR00085-17

### Ukraine



### United Arab Emirates



# Customer Information

## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: L2C0065TR

IC: 3432A-0065TR

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia



## GARAGE DOOR OPENER

### United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: NZLSAHL5D

IC: 4112A-SAHL5D

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## KEYS AND REMOTE CONTROLS

### Argentina



# Customer Information



COMISSION NACIONAL  
DE COMUNICACIONES

**CNC ID: H-16355**

**CNC: H-16366**



COMISSION NACIONAL  
DE COMUNICACIONES



COMISSION NACIONAL  
DE COMUNICACIONES

**CNC ID: H-24101**

## Brazil



**ANATEL**  
Agência Nacional de Telecomunicações

**02445-16-01821**



**ANATEL**  
Agência Nacional de Telecomunicações

**02444-16-01821**

## Djibouti

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 287/MCPT/SC/16  
Date d'agrément : 02/07/2016

AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 289/MCPT/SC/116  
Date d'agrément : 02/07/2016

# Customer Information

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## Ghana

NCA APPROVED: 2R9-8M-7E0-x94

This product has been Type Approved by Jamaica: SMA – M3N-A2C931423

**NCA APPROVED: 2R9-1H-7E0-01A**

## Jamaica

This product has been Type Approved  
by Jamaica: SMA – A2C97102000

**This product has been Type Approved  
by Jamaica: SMA – A2C93142100**

## Malaysia



F17000176

## Mauritania

This product has been Type Approved by Jamaica: SMA – M3N-A2C931426

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0324/ARE/2016  
Date d'agrément : 07/03/2016

# Customer Information

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0323/ARE/2016  
Date d'agrément : 07/03/2016

## Moldova



## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 12432 ANRT 2016  
Date d'agrément : 31/08/2016

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 12433 ANRT 2016  
Date d'agrément : 31/08/2016

## Pakistan

Pakistan Telecommunication Authority



Approved by PTA 2016

## Paraguay



NR: 2016-9-I-000222  
NR: 2016-9-I-000220  
NR: 2016-9-I-000223

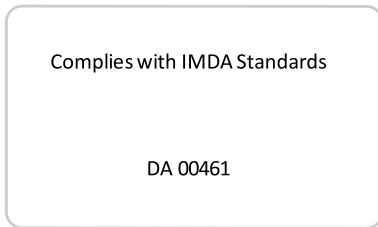
# Customer Information

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## Serbia



## Singapore



## South Korea

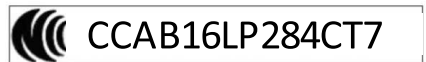


MSIP-CRM-TAL-A2C97102000

## South Africa




## Taiwan



## Customer Information

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 CCAB16LP284DT9


TRA  
REGISTERED No:  
ER46754/16

DEALER No:  
DA37380/15

### Ukraine



### United States and Canada

 **WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: M3N-A2C931426

FCC ID: M3N-A2C931423

IC: 7812A-A2C931426

IC: 7812A-A2C913423

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### United Arab Emirates (U.A.E.)

TRA  
REGISTERED No: ER47690/16  
DEALER No: DA37380/15

# Customer Information

## Vietnam



## RADIO TRANSCEIVER MODULE

### Argentina



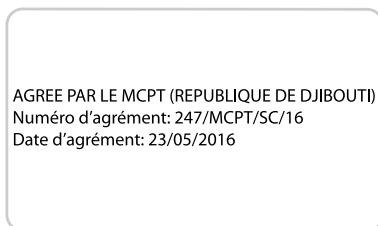
## Zambia



## China

CMIIT ID: 2016DJ0249

## Djibouti



E272192



# Customer Information

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AGREE PAR LE MCPT (REPUBLIQUE DE DJIBOUTI)  
Numéro d'agrément : 286/MCPT/SC/16  
Date d'agrément : 02/07/16

This product has been Type Approved by Jamaica:  
SMA – F03-AM315RX

E272193

## Ghana

This product has been Type Approved by  
Jamaica: SMA - FO4-AM902TRB.

NCA APPROVED: NCA/TA/16/24

## Mauritania

## Indonesia

SERTIFIKAT NOMOR : 44813/SDPPI/2016  
PLG ID: 4940

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0233/ARE/2014  
Date d'agrément : 14/11/2014

## Jamaica

This product has been Type Approved by  
Jamaica: SMA – FO3-AM433RX

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0325/ARE/2016  
Date d'agrément : 07/03/2016

# Customer Information

## Moldova



## Pakistan



## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 8921 ANRT 2014  
Date d'agrément : 04/02/2014

## Paraguay



AGREE PAR L'ANRT MAROC  
Numéro d'agrément : MR 11489 ANRT 2016  
Date d'agrément : 26/02/2016

NR: 2016-9-I-00244

## Serbia



# Customer Information

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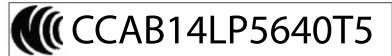
## South Africa



## Taiwan



## South Korea



KCC-REM-DDG-FO3

## Syria

SyTRA  
REGISTERED No:  
1508/4NK

## Ukraine



# Customer Information

## United Arab Emirates (U.A.E.)

TRA REGISTERED No.ER49062/16  
DEALER No: DA37380/15

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia

TRA  
REGISTERED  
No: ER46324/16

DEALER No:  
DA37380/15



## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: LTQFO3AM315RX

FCC ID: L2C0062TR

IC: 3659A-FO3AM315RX

IC: 3659A-FO4AM902TRX

## SYNC

## Argentina



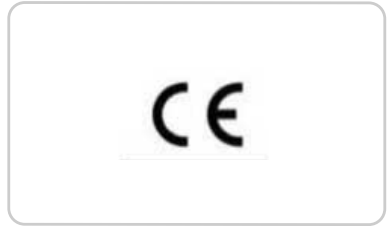
# Customer Information

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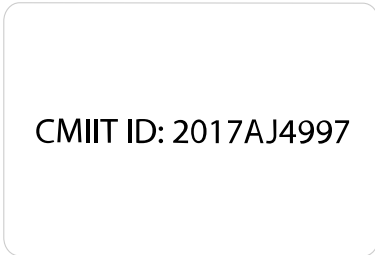
## Brazil



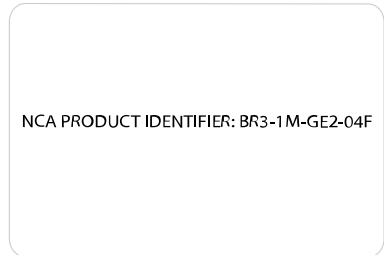
## European Union EU



## China



## Ghana



## Djibouti



## Jamaica

This product has been Type Approved  
by Jamaica: SMA - FG-185-SG32-MH.

# Customer Information

## Malaysia



RBAB/57H/0318/S(18-0624)

## Mauritania

AGREE PAR L'ANEMAURITANIE  
Numéro d'agrément: 0442/ARE/2017  
Date d'agrément: 21/11/2017

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR 15193 ANRT 2017  
Date d'agrément: 22/11/2017

## Pakistan



Date of Issuance: 11/30/2017

## Moldova



## Paraguay



NR: 2017-12-I-0000413

# Customer Information

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## Serbia

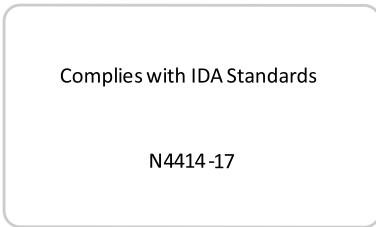


## South Korea

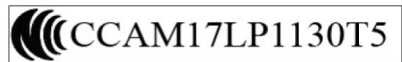


MSIP-CMM-pAs-FA-170-BCAR-HS

## Singapore



## Taiwan



## South Africa

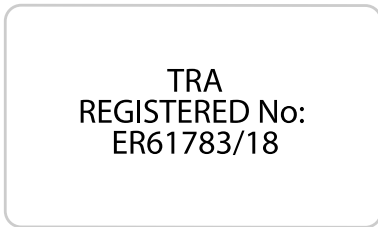


## Ukraine



# Customer Information

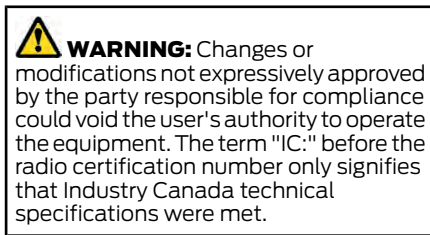
## United Arab Emirates (U.A.E.)



## Vietnam



## United States and Canada



FCC ID: ACJ-FG-185-SG32MH

IC: 216B-FG185SG32MH

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

## Zambia



## TIRE PRESSURE MONITORING SYSTEM SENSORS - VEHICLES WITH: 315 MHZ SENSORS

## Brazil





# Customer Information

## Jamaica

This product has been Type Approved  
by Jamaica: SMA – AG2SZ3

## Mexico

IFT: RLVSCFP15-1249

“La operación de este equipo está sujeta a las siguientes  
dos condiciones: (1) es posible que este equipo o dispositivo  
no cause interferencia perjudicial y (2) este equipo o dispositivo  
debe aceptar cualquier interferencia, incluyendo la que pueda  
causar su operación no deseada.”

## Paraguay



NR: 2014-07-1-000191

## Taiwan



CCAM14LP0460T0

本產品符合低功率電波輻射性電機管理辦法 第十二條、第十四條等條之規定  
1. 經型式認證合格之低功率射頻電機，未經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。  
2. 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。  
對合法通信，指依電信法規定作業之無線電通信。  
低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: MRXAG2SZ3

IC: 2546A-AG2SZ3

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

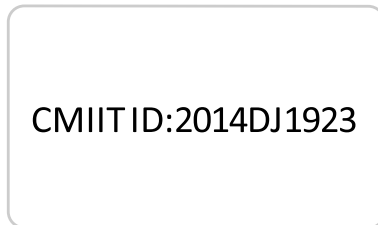
# Customer Information

## TIRE PRESSURE MONITORING SYSTEM SENSORS - VEHICLES WITH: 433 MHZ SENSORS

### Argentina



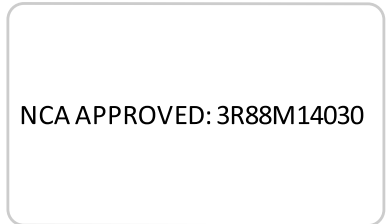
### China



### European Union (EU)

Hereby, Schrader Electronics Ltd. declares that the radio equipment type AG2S24 is in compliance with Directive 2014/53/EU.  
The full text of the EU declaration of conformity is available at the following internet address:  
[http://www.mustangsource.com/documents/declaration\\_conformities](http://www.mustangsource.com/documents/declaration_conformities)  
F:433.92MHz - 106MHz (r.zpl)  
Schrader Electronics Ltd. 11 Technology Park, Belfast Road, Antrim BT41 1QS, Northern Ireland United Kingdom

### Ghana



### Jordan

Kingdom of Jordan Type approval for tyre pressure sensor  
Model : AG2S24 Manufacturer: Schrader Electronics Ltd  
Type Approval Number:TRC/LPD/2014/56  
Equipment Type: Low Power Device (LPD)

### Malaysia



CIDF15000486

# Customer Information

## Mauritania

AGREE PAR L'ANE MAURITANIE  
Numéro d'agrément : 0611/ARE/2019  
Date d'agrément : 11/01/2019

## Morocco

AGREE PAR L'ANRT MAROC  
Numéro d'agrément: MR9098  
ANRT 2014  
Date d'agrément: 14/03/2014

## Mexico

IFT: RLVSCMR15-1238  
"La operación de este equipo está sujeta a las siguientes dos condiciones:  
(1) es posible que este equipo o dispositivo no cause interferencia perjudicial y  
(2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada."

## Nigeria

Connection and use of this  
communications  
equipment is permitted by the Nigerian  
Communications Commission

## Moldova



## Oman

OMAN TRA  
TA-R/1752/14  
D090258

## Philippines



Type Approved

NTC

No:ESD-1408639C

# Customer Information

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## Russia



## South Korea



## Serbia



MSIP-CRM-SRD-AG2SZ4

## Taiwan

## Singapore

Complies with  
IDA Standards  
DA 105282



CCAM14LP0090T3

## South Africa



TA-2014/064

Approved

## Ukraine



# Customer Information

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## United Arab Emirates

TRA  
REGISTERED NO: ER0130238/14  
DEALER NO: DA0047074/10

## United States and Canada



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

FCC ID: MRXAG2SZ4

IC: 2546A-AG2SZ4

This device complies with Part 15 of the FCC Rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

# Appendices

## ELECTROMAGNETIC COMPATIBILITY



**WARNING:** Do not place objects or mount equipment on or near the airbag cover, on the side of the front or rear seatbacks, or in areas that may come into contact with a deploying airbag. Failure to follow these instructions may increase the risk of personal injury in the event of a crash.



**WARNING:** Do not fasten antenna cables to vehicle wiring, fuel pipes and brake pipes.

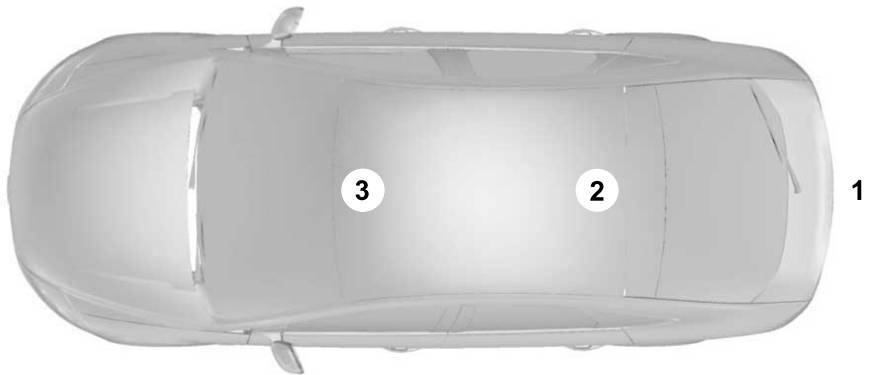


**WARNING:** Keep antenna and power cables at least 4 in (10 cm) from any electronic modules and airbags.

**Note:** We test and certify your vehicle to meet electromagnetic compatibility legislation. It is your responsibility to make sure that any equipment an authorized dealer installs on your vehicle complies with applicable local legislation and other requirements. Installation of some aftermarket electronic devices could degrade the performance of vehicle functions, which use radio frequency signals such as broadcast radio receiver, tire pressure monitoring system, push button start, **Bluetooth®** connectivity or satellite navigation.

**Note:** Any radio frequency transmitter equipment in your vehicle (such as cellular telephones and amateur radio transmitters) must keep to the parameters in the following illustrations and table. We do not provide any other special provisions or conditions for installations or use.

### Car/SUV



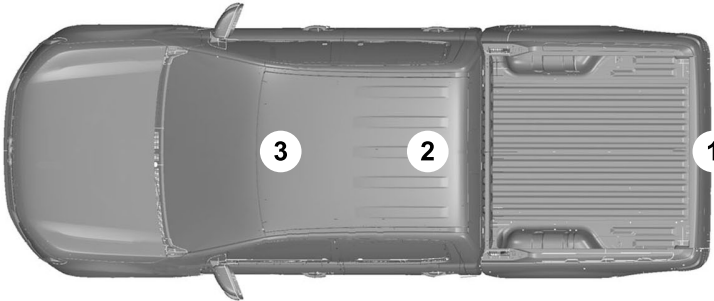
# Appendices

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## Van



## Truck



# Appendices

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<b>Frequency Band MHz</b>	<b>Maximum output power Watt (Peak RMS)</b>	<b>Antenna Positions</b>
1-30	50	1
50-54	50	2, 3
68-88	50	2, 3
142-176	50	2, 3
380-512	50	2, 3
806-870	10	2, 3



# Appendices

## END USER LICENSE AGREEMENT

### VEHICLE SOFTWARE END USER LICENSE AGREEMENT (EULA)

- You ("You" or "Your" as applicable) have acquired a vehicle having several devices, including SYNC ® and various control modules, ("DEVICES") that include software licensed or owned by Ford Motor Company and its affiliates ("FORD MOTOR COMPANY"). Those software products of FORD MOTOR COMPANY origin, as well as associated media, printed materials, and "online" or electronic documentation ("SOFTWARE") are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.
- The SOFTWARE may interface with and/or communicate with, or may be later upgraded to interface with and/or communicate with additional software and/or systems provided by FORD MOTOR COMPANY.

**IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT ("EULA") DO NOT USE THE DEVICES OR COPY THE SOFTWARE. ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE ON THE DEVICES, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).**

**GRANT OF SOFTWARE LICENSE:** This EULA grants you the following license:

- You may use the SOFTWARE as installed on the DEVICES and as otherwise interfacing with systems and/or services provide by or through FORD MOTOR COMPANY or its third party software and service providers.

## Description of Other Rights and Limitations

- **Speech Recognition:** If the SOFTWARE includes speech recognition component(s), you should understand that speech recognition is an inherently statistical process and that recognition errors are inherent in the process. Neither FORD MOTOR COMPANY nor its suppliers shall be liable for any damages arising out of errors in the speech recognition process. It is your responsibility to monitor any speech recognition functions included in the system.
- **Limitations on Reverse Engineering, Decompilation and Disassembly:** You may not reverse engineer, decompile, translate, disassemble or attempt to discover any source code or underlying ideas or algorithms of the SOFTWARE nor permit others to reverse engineer, decompile or disassemble the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.
- **Limitations on Distributing, Copying, Modifying and Creating Derivative Works:** You may not distribute, copy, make modifications to or create derivative works based on the SOFTWARE, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation or to the extent as may be permitted by the licensing terms governing use of any open source components included with the SOFTWARE.

# Appendices

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- **Single EULA:** The end user documentation for the DEVICES and related systems and services may contain multiple EULAs, such as multiple translations and/or multiple media versions (e.g., in the user documentation and in the software). Even if you receive multiple EULAs, you are licensed to use only one (1) copy of the SOFTWARE.
- **SOFTWARE Transfer:** You may permanently transfer your rights under this EULA only as part of a sale or transfer of the DEVICES, provided you retain no copies, you transfer all of the SOFTWARE (including all component parts, the media and printed materials, any upgrades, and, if applicable, the Certificate(s) of Authenticity), and the recipient agrees to the terms of this EULA. If the SOFTWARE is an upgrade, any transfer must include all prior versions of the SOFTWARE.
- **Termination:** Without prejudice to any other rights, FORD MOTOR COMPANY may terminate this EULA if you fail to comply with the terms and conditions of this EULA.
- **Internet-Based Services Components:** The SOFTWARE may contain components that enable and facilitate the use of certain Internet-based services. You acknowledge and agree that FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent may automatically check the version of the SOFTWARE and/or its components that you are utilizing and may provide upgrades or supplements to the SOFTWARE that may be automatically downloaded to your DEVICES.
- **Additional Software/Services:** The SOFTWARE may permit FORD MOTOR COMPANY, third party software and service suppliers, its affiliates and/or its designated agent to provide or make available to you SOFTWARE updates, supplements, add-on components, or Internet-based services components of the SOFTWARE after the date you obtain your initial copy of the SOFTWARE ("Supplemental Components".) SOFTWARE updates may cause you to incur additional charges from your wireless service provider. If FORD MOTOR COMPANY or third party software and services suppliers provide or make available to you Supplemental Components and no other EULA terms are provided along with the Supplemental Components, then the terms of this EULA shall apply. FORD MOTOR COMPANY, its affiliates and/or its designated agent reserve the right to discontinue without liability any Internet-based services provided to you or made available to you through the use of the SOFTWARE.

# Appendices

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- **Links to Third Party Sites:** The SOFTWARE may provide you with the ability to link to third party sites. The third party sites are not under the control of FORD MOTOR COMPANY, its affiliates and/or its designated agent. Neither FORD MOTOR COMPANY nor its affiliates nor its designated agent are responsible for (i) the contents of any third party sites, any links contained in third party sites, or any changes or updates to third party sites, or (ii) webcasting or any other form of transmission received from any third party sites. If the SOFTWARE provides links to third party sites, those links are provided to you only as a convenience, and the inclusion of any link does not imply an endorsement of the third party site by FORD MOTOR COMPANY, its affiliates and/or its designated agent.
- **Obligation to Drive Responsibly:** You recognize your obligation to drive responsibly and keep attention on the road. You will read and abide with the DEVICES operating instructions particularly as they pertain to safety and you agree to assume any risk associated with the use of the DEVICES.

## **UPGRADES AND RECOVERY MEDIA:**

If the SOFTWARE is provided by FORD MOTOR COMPANY separate from the DEVICES on media such as a ROM chip, CD ROM disk(s) or via web download or other means, and is labeled "For Upgrade Purposes Only" or "For Recovery Purposes Only" you may install one (1) copy of such SOFTWARE onto the DEVICES as a replacement copy for the existing SOFTWARE, and use it in accordance with this EULA, including any additional EULA terms accompanying the upgrade SOFTWARE.

## **INTELLECTUAL PROPERTY RIGHTS:**

All title and intellectual property rights in and to the SOFTWARE (including but not limited to any images, photographs, animations, video, audio, music, text and "applets" incorporated into the SOFTWARE), the accompanying printed materials, and any copies of the SOFTWARE, are owned by FORD MOTOR COMPANY, or its affiliates or suppliers. The SOFTWARE is licensed, not sold. You may not copy the printed materials accompanying the SOFTWARE. All title and intellectual property rights in and to the content which may be accessed through use of the SOFTWARE is the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants you no rights to use such content outside its intended use. All rights not specifically granted under this EULA are reserved by FORD MOTOR COMPANY, its affiliates, and third party software and service providers and suppliers. Use of any on-line services which may be accessed through the SOFTWARE may be governed by the respective terms of use relating to such services. If this SOFTWARE contains documentation that is provided only in electronic form, you may print one copy of such electronic documentation.

**EXPORT RESTRICTIONS:** You acknowledge that the SOFTWARE is subject to U.S. and European Union export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments.

# Appendices

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**TRADEMARKS:** This EULA does not grant you any rights in connection with any trademarks or service marks of FORD MOTOR COMPANY, its affiliates, and third party software and service providers.

The **Bluetooth®** word mark and logos are registered trademarks owned by **Bluetooth SIG, Inc.** and any use of such marks by Ford Motor Company is under license. Other trademarks and trade names are those of their respective owners.

**PRODUCT SUPPORT:** Please refer to FORD MOTOR COMPANY instructions provided in the documentation for the DEVICES product support, such as the vehicle owner guide.

Should you have any questions concerning this EULA, or if you desire to contact FORD MOTOR COMPANY for any other reason, please refer to the address provided in the documentation for the DEVICES.

**No Liability for Certain Damages:** EXCEPT AS PROHIBITED BY LAW, FORD MOTOR COMPANY, ANY THIRD PARTY SOFTWARE OR SERVICES SUPPLIERS, AND THEIR AFFILIATES SHALL HAVE NO LIABILITY FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE SOFTWARE. THIS LIMITATION SHALL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. THERE ARE NO WARRANTIES OTHER THAN THOSE THAT MAY BE EXPRESSLY PROVIDED FOR YOUR NEW VEHICLE.

## **SYNC® Automotive Important Safety Information Read and follow instructions:**

- Before using your SYNC® system, read and follow all instructions and safety information provided in this end user manual ("Owner Guide".) Not following precautions found in the Owner Guide can lead to an accident or other serious injuries.

### General Operation

- **Voice Command Control:** Certain functions within the SYNC® system may be accomplished using voice commands. Using voice commands while driving helps you to operate the system without removing your hands from the wheel or eyes from the road.
- **Prolonged Views of Screen:** Do not access any function requiring a prolonged view of the screen while you are driving. Pull over in a safe and legal manner before attempting to access a function of the system requiring prolonged attention.
- **Volume Setting:** Do not raise the volume excessively. Keep the volume at a level where you can still hear outside traffic and emergency signals while driving. Driving while unable to hear these sounds could cause an accident.
- **Navigation Features:** Any navigation features included in the system are intended to provide turn by turn instructions to get you to a desired destination. Please make certain all persons using this system carefully read and follow instructions and safety information fully.

# Appendices

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- **Distraction Hazard:** Any navigation features may require manual (non-verbal) setup. Attempting to perform such set-up or insert data while driving can distract your attention and could cause an accident or other serious injury. Stop the vehicle in a safe and legal manner before attempting these operations.
- **Let Your Judgment Prevail:** Any navigation features are provided only as an aid. Make your driving decisions based on your observations of local conditions and existing traffic regulations. Any such feature is not a substitute for your personal judgment. Any route suggestions made by this system should never replace any local traffic regulations or your personal judgment or knowledge of safe driving practices.
- **Route Safety:** Do not follow the route suggestions if doing so would result in an unsafe or illegal maneuver, if you would be placed in an unsafe situation, or if you would be directed into an area that you consider unsafe. The driver is ultimately responsible for the safe operation of the vehicle and therefore, must evaluate whether it is safe to follow the suggested directions.
- **Potential Map Inaccuracy:** Maps used by this system may be inaccurate because of changes in roads, traffic controls or driving conditions. Always use good judgment and common sense when following the suggested routes.
- **Emergency Services:** Do not rely on any navigation features included in the system to route you to emergency services. Ask local authorities or an emergency services operator for these locations. Not all emergency services such as police, fire stations, hospitals and clinics are likely to be contained in the map database for such navigation features.

## Your Responsibilities and Assumptions of Risk

- You agree to each of the following: (a) Any use of the SOFTWARE while driving an automobile or other vehicle in violation of applicable law or otherwise driving in an unsafe manner presents a significant risk of distracted driving and should not be attempted under any circumstances; (b) Use of the SOFTWARE at excessive volume poses a significant risk of hearing damage and should not be attempted under any circumstances; (c) The SOFTWARE may not be compatible with new or different versions of an operating system, third party software, or third party services, and the SOFTWARE may potentially cause a critical failure of an operating system, third party software, or third party service; (d) Any third party service accessed by or third party software used with the SOFTWARE (i) may charge an additional fee for access, (ii) may not work correctly, on an uninterrupted basis, or error free, (iii) may change streaming formats or discontinue operation, (iv) may contain adult, profane or offensive content; and (v) may contain inaccurate, false or misleading traffic, weather, financial or safety information or other content; and (e) Use of the SOFTWARE may cause you to incur additional charges from your wireless service provider (WSP) and any data or minute calculators that may be included in the software program are for reference only, are not warranted in any way and should not be relied upon in anyway.
- When using the SOFTWARE, you agree to be responsible for and assume the entire risk to the items set forth in Section (a) – (e) above.

# Appendices

## Disclaimer of Warranty

YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT USE OF THE DEVICES AND SOFTWARE IS AT YOUR SOLE RISK AND THAT THE ENTIRE RISK AS TO SATISFACTORY QUALITY, PERFORMANCE, COMPATIBILITY, ACCURACY AND EFFORT IS WITH YOU. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE SOFTWARE AND ANY THIRD PARTY SOFTWARE OR THIRD-PARTY SERVICES ARE PROVIDED "AS IS" AND "AS AVAILABLE", WITH ALL FAULTS AND WITHOUT WARRANTY OF ANY KIND, AND FORD MOTOR COMPANY HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH RESPECT TO THE SOFTWARE, THIRD PARTY SOFTWARE, AND THIRD-PARTY SERVICES, EITHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES AND/OR CONDITIONS OF MERCHANTABILITY, OF SATISFACTORY QUALITY, OF FITNESS FOR AN PARTICULAR PURPOSE, OF ACCURACY, OF QUIET ENJOYMENT, AND NON-INFRINGEMENT OF THIRD-PARTY RIGHTS. FORD MOTOR COMPANY DOES NOT WARRANT (a) AGAINST INTERFERENCE WITH YOUR ENJOYMENT OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES, (b) THAT THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL MEET YOUR REQUIREMENTS, (c) THAT THE OPERATION OF THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE UNINTERRUPTED OR ERROR-FREE, (d) OR THAT DEFECTS IN THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES WILL BE CORRECTED. NO ORAL OR WRITTEN INFORMATION OR ADVICE GIVEN BY FORD MOTOR COMPANY OR ITS AUTHORIZED REPRESENTATIVE SHALL

CREATE A WARRANTY. SHOULD THE SOFTWARE, THIRD PARTY SOFTWARE, OR THIRD-PARTY SERVICES PROVE DEFECTIVE, YOU ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. SOME JURISDICTIONS DO NOT ALLOW THE DISCLAIMER OF IMPLIED WARRANTIES OR LIMITATIONS ON APPLICABLE STATUTORY RIGHTS OF A CONSUMER, SO THE ABOVE DISCLAIMER MAY NOT FULLY APPLY TO YOU. THE SOLE WARRANTY PROVIDED BY FORD MOTOR COMPANY SHALL BE FOUND IN THE WARRANTY INFORMATION INCLUDING WITH YOUR OWNER GUIDE. TO THE EXTENT THAT THERE IS ANY CONFLICT BETWEEN THE TERMS OF THIS SECTION AND THE WARRANTY BOOKLET, THE WARRANTY BOOKLET SHALL CONTROL.

## Applicable Law, Venue, Jurisdiction

- The laws of the State of Michigan govern this EULA and Your use of the SOFTWARE. Your use of the SOFTWARE may also be subject to other local, state, national, or international laws. Any litigation arising out of or related to this EULA shall be brought and maintained exclusively in a court of the State of Michigan located in Wayne County or in the United States District Court for the Eastern District of Michigan. You hereby consent to submit to the personal jurisdiction of a court in the State of Michigan located in Wayne County and the United States District Court for the Eastern District of Michigan for any dispute arising out of or relating to this EULA.

# Appendices

## **Binding Arbitration and Class Action Waiver**

**(a) Application.** This Section applies to any dispute EXCEPT IT DOES NOT INCLUDE A DISPUTE RELATING TO COPYRIGHT INFRINGEMENT, OR TO THE ENFORCEMENT OR VALIDITY OF YOUR, FORD MOTOR COMPANY, OR ANY OF FORD MOTOR COMPANY'S LICENSORS' INTELLECTUAL PROPERTY RIGHTS. Dispute means any dispute, action, or other controversy between You and FORD MOTOR COMPANY, other than the exceptions listed above, concerning the SOFTWARE (including its price) or this EULA, whether in contract, warranty, tort, statute, regulation, ordinance, or any other legal or equitable basis.

**(b) Notice of Dispute.** In the event of a Dispute, You or FORD MOTOR COMPANY must give the other a "Notice of Dispute", which is a written statement of the name, address, and contact information of the party giving it, the facts giving rise to the dispute, and the relief requested. You and FORD MOTOR COMPANY will attempt to resolve any dispute through informal negotiation within 60 days from the date the Notice of Dispute is sent. After 60 days, You or FORD MOTOR COMPANY may commence arbitration.

**(c) Small claims court.** You may also litigate any dispute in small claims court in your county of residence or FORD MOTOR COMPANY'S principal place of business, if the dispute meets all requirements to be heard in the small claims court. You may litigate in small claims court whether or not You negotiated informally first.

**(d) Binding arbitration.** If You and FORD MOTOR COMPANY, do not resolve any dispute by informal negotiation or in small claims court, any other effort to resolve the dispute will be conducted exclusively by binding arbitration. You are giving up

the right to litigate (or participate in as a party or class member) all disputes in court before a judge or jury. Instead, all disputes will be resolved before a neutral arbitrator, whose decision will be final except for a limited right of appeal under the Federal Arbitration Act. Any court with jurisdiction over the parties may enforce the arbitrator's award.

**(e) Class action waiver.** Any proceedings to resolve or litigate any dispute in any forum will be conducted solely on an individual basis. Neither you nor FORD MOTOR COMPANY, will seek to have any dispute heard as a class action, as a private attorney general action, or in any other proceeding in which any party acts or proposes to act in a representative capacity. No arbitration or proceeding will be combined with another without the prior written consent of all parties to all affected arbitrations or proceedings.

**(f) Arbitration procedure.** Any arbitration will be conducted by the American Arbitration Association (the "AAA"), under its Commercial Arbitration Rules. If You are an individual and use the SOFTWARE for personal or vehicle use, or if the value of the dispute is \$75,000 or less whether or not You are an individual or how You use the SOFTWARE, the AAA Supplementary Procedures for Consumer-Related Disputes will also apply. To commence arbitration, submit a Commercial Arbitration Rules Demand for Arbitration form to the AAA. You may request a telephonic or in-person hearing by following the AAA rules. In a dispute involving \$10,000 or less, any hearing will be telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. For more information, see [adr.org](http://adr.org) or call 1-800-778-7879. You agree to commence arbitration only in your county of residence or FORD MOTOR COMPANY'S principal place of business. The arbitrator

# Appendices

may award the same damages to You individually as a court could. The arbitrator may award declaratory or injunctive relief only to You individually, and only to the extent required to satisfy Your individual claim.

## **(g) Arbitration fees and incentives.**

- I. Disputes involving \$75,000 or less. FORD MOTOR COMPANY will promptly reimburse your filing fees and pay the AAA's and arbitrator's fees and expenses. If you reject FORD MOTOR COMPANY'S last written settlement offer made before the arbitrator was appointed ("last written offer"), your dispute goes all the way to an arbitrator's decision (called an "award"), and the arbitrator awards you more than the last written offer, FORD MOTOR COMPANY will give you three incentives: (1) pay the greater of the award or \$1,000; (2) pay twice your reasonable attorney's fees, if any; and (3) reimburse any expenses (including expert witness fees and costs) that your attorney reasonably accrues for investigating, preparing, and pursuing your claim in arbitration. The arbitrator will determine the amounts.
- ii. Disputes involving more than \$75,000. The AAA rules will govern payment of filing fees and the AAA's and arbitrator's fees and expenses.
- iii. Disputes involving any amount. In any arbitration you commence, FORD MOTOR COMPANY will seek its AAA or arbitrator's fees and expenses, or Your filing fees it reimbursed, only if the arbitrator finds the arbitration frivolous or brought for an improper purpose. In any arbitration FORD MOTOR COMPANY commences, it will pay all

filing, AAA, and arbitrator's fees and expenses. It will not seek its attorney's fees or expenses from you in any arbitration. Fees and expenses are not counted in determining how much a dispute involves.

**(h) Claims or disputes must be filed within one year.** To the extent permitted by law, any claim or dispute under this EULA to which this Section applies must be filed within one year in small claims court (Section c) or in arbitration (Section d). The one-year period begins when the claim or dispute first could be filed. If such a claim or dispute is not filed within one year, it is permanently barred.

**(i) Severability.** If the class action waiver (Section e) is found to be illegal or unenforceable as to all or some parts of a dispute, then that portion of Section e will not apply to those parts. Instead, those parts will be severed and proceed in a court of law, with the remaining parts proceeding in arbitration. If any other provision of that portion Section e is found to be illegal or unenforceable, that provision will be severed with the remainder of Section e remaining in full force and effect.

## **Telenav Software End User License Agreement**

Please read these terms and conditions carefully before you use the TeleNav Software. Your use of the TeleNav Software indicates that you accept these terms and conditions. If you do not accept these terms and conditions, do not break the seal of the package, launch, or otherwise use the TeleNav Software. TeleNav may revise this Agreement and the privacy policy at any time, with or without notice to you. You agree to visit <http://www.telenav.com> from time to time to review the then current version of this Agreement and of the privacy policy.



# Appendices

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## 1. Safe and Lawful Use

You acknowledge that devoting attention to the TeleNav Software may pose a risk of injury or death to you and others in situations that otherwise require your undivided attention, and you therefore agree to comply with the following when using the TeleNav Software:

- (a) observe all traffic laws and otherwise drive safely;
- (b) use your own personal judgment while driving. If you feel that a route suggested by the TeleNav Software instructs you to perform an unsafe or illegal maneuver, places you in an unsafe situation, or directs you into an area that you consider to be unsafe, do not follow such instructions;
- (c) do not input destinations, or otherwise manipulate the TeleNav Software, unless your vehicle is stationary and parked;
- (d) do not use the TeleNav Software for any illegal, unauthorized, unintended, unsafe, hazardous, or unlawful purposes, or in any manner inconsistent with this Agreement;
- (e) arrange all GPS and wireless devices and cables necessary for use of the TeleNav Software in a secure manner in your vehicle so that they will not interfere with your driving and will not prevent the operation of any safety device (such as an airbag).

You agree to indemnify and hold TeleNav harmless against all claims resulting from any dangerous or otherwise inappropriate use of the TeleNav Software in any moving vehicle, including as a result of your failure to comply with the directions above.

## 2. Account Information

You agree: (a) when registering the TeleNav Software, to provide TeleNav with true, accurate, current, and complete information about yourself, and (b) to inform TeleNav promptly of any changes to such information, and to keep it true, accurate, current and complete.

## 3. Software License

- Subject to your compliance with the terms of this Agreement, TeleNav hereby grants to you a personal, non-exclusive, non-transferable license (except as expressly permitted below in connection with your permanent transfer of the TeleNav Software license), without the right to sublicense, to use the TeleNav Software (in object code form only) in order to access and use the TeleNav Software. This license shall terminate upon any termination or expiration of this Agreement. You agree that you will use the TeleNav Software only for your personal business or leisure purposes, and not to provide commercial navigation services to other parties.

### 3.1 License Limitations

- **(a)** reverse engineer, decompile, disassemble, translate, modify, alter or otherwise change the TeleNav Software or any part thereof; **(b)** attempt to derive the source code, audio library or structure of the TeleNav Software without the prior express written consent of TeleNav; **(c)** remove from the TeleNav Software, or alter, any of TeleNav's or its suppliers' trademarks, trade names, logos, patent or copyright notices, or other notices or markings; **(d)**

# Appendices

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distribute, sublicense or otherwise transfer the TeleNav Software to others, except as part of your permanent transfer of the TeleNav Software; or **(e)** use the TeleNav Software in any manner that

- i. infringes the intellectual property or proprietary rights, rights of publicity or privacy or other rights of any party,
- ii. violates any law, statute, ordinance or regulation, including but not limited to laws and regulations related to spamming, privacy, consumer and child protection, obscenity or defamation, or
- iii. is harmful, threatening, abusive, harassing, tortuous, defamatory, vulgar, obscene, libelous, or otherwise objectionable; and (f) lease, rent out, or otherwise permit unauthorized access by third parties to the TeleNav Software without advanced written permission of TeleNav.

## 4. Disclaimers

- To the fullest extent permissible pursuant to applicable law, in no event will TeleNav, its licensors and suppliers, or agents or employees of any of the foregoing, be liable for any decision made or action taken by you or anyone else in reliance on the information provided by the TeleNav Software. TeleNav also does not warrant the accuracy of the map or other data used for the TeleNav Software. Such data may not always reflect reality due to, among other things, road closures, construction, weather, new roads and other changing conditions. You are responsible for the entire risk arising out of your use of the TeleNav Software. For example but without limitation, you agree not to rely on the TeleNav Software for critical navigation in areas where the well-being or survival of you or others

is dependent on the accuracy of navigation, as the maps or functionality of the TeleNav Software are not intended to support such high risk applications, especially in more remote geographical areas.

- TELENAV EXPRESSLY DISCLAIMS AND EXCLUDES ALL WARRANTIES IN CONNECTION WITH THE TELENAV SOFTWARE, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES WHICH MAY ARISE FROM COURSE OF DEALING, CUSTOM OR TRADE AND INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS WITH RESPECT TO THE TELENAV SOFTWARE.
- Certain jurisdictions do not permit the disclaimer of certain warranties, so this limitation may not apply to you.

## 5. Limitation of Liability

- TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, UNDER NO CIRCUMSTANCES SHALL TELENAV OR ITS LICENSORS AND SUPPLIERS BE LIABLE TO YOU OR TO ANY THIRD PARTY FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL OR EXEMPLARY DAMAGES (INCLUDING IN EACH CASE, BUT NOT LIMITED TO, DAMAGES FOR THE INABILITY TO USE THE EQUIPMENT OR ACCESS DATA, LOSS OF DATA, LOSS OF BUSINESS, LOSS OF PROFITS, BUSINESS INTERRUPTION OR THE LIKE) ARISING OUT OF THE USE OF OR INABILITY TO USE THE TELENAV SOFTWARE, EVEN IF TELENAV HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING ANY DAMAGES THAT YOU MIGHT INCUR FOR ANY

# Appendices

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REASON WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ALL DAMAGES REFERENCED HEREIN AND ALL DIRECT OR GENERAL DAMAGES IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE), THE ENTIRE LIABILITY OF TELENAV AND OF ALL OF TELENAV'S SUPPLIERS SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE TELENAV SOFTWARE. SOME STATES AND/OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

## **6. Arbitration and Governing Law**

- You agree that any dispute, claim or controversy arising out of or relating to this Agreement or the TeleNav Software shall be settled by independent arbitration involving a neutral arbitrator and administered by the American Arbitration Association in the County of Santa Clara, California. The arbitrator shall apply the Commercial Arbitration Rules of the American Arbitration Association, and the judgment upon the award rendered by the arbitrator may be entered by any court having jurisdiction. Note that there is no judge or jury in an arbitration proceeding and the decision of the arbitrator shall be binding upon both parties. You expressly agree to waive your right to a jury trial. This Agreement and performance hereunder will be governed by and construed in accordance with the laws of the State of California, without giving effect to its conflict of law provisions. To the extent judicial action is necessary in connection with the binding arbitration, both TeleNav and you agree to submit

to the exclusive jurisdiction of the courts of the County of Santa Clara, California. The United Nations Convention on Contracts for the International Sale of Goods shall not apply.

## **7. Assignment**

- You may not resell, assign, or transfer this Agreement or any of your rights or obligations, except in totality, in connection with your permanent transfer of the TeleNav Software, and expressly conditioned upon the new user of the TeleNav Software agreeing to be bound by the terms and conditions of this Agreement. Any such sale, assignment or transfer that is not expressly permitted under this paragraph will result in immediate termination of this Agreement, without liability to TeleNav, in which case you and all other parties shall immediately cease all use of the TeleNav Software. Notwithstanding the foregoing, TeleNav may assign this Agreement to any other party at any time without notice, provided the assignee remains bound by this Agreement.

## **8. Miscellaneous**

### **8.1**

This Agreement constitutes the entire agreement between TeleNav and you with respect to the subject matter hereof.

### **8.2**

Except for the limited licenses expressly granted in this Agreement, TeleNav retains all right, title and interest in and to the TeleNav Software, including without limitation all related intellectual property rights. No licenses or other rights which are not expressly granted in this Agreement are intended to, or shall be, granted or

# Appendices

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conferred by implication, statute, inducement, estoppel or otherwise, and TeleNav and its suppliers and licensors hereby reserve all of their respective rights other than the licenses explicitly granted in this Agreement.

## 8.3

By using the TeleNav Software, you consent to receive from TeleNav all communications, including notices, agreements, legally required disclosures or other information in connection with the TeleNav Software (collectively, "Notices") electronically. TeleNav may provide such Notices by posting them on TeleNav's Website or by downloading such Notices to your wireless device. If you desire to withdraw your consent to receive Notices electronically, you must discontinue your use of the TeleNav Software.

## 8.4

TeleNav's or your failure to require performance of any provision shall not affect that party's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this Agreement constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

## 8.5

If any provision herein is held unenforceable, then such provision will be modified to reflect the intention of the parties, and the remaining provisions of this Agreement will remain in full force and effect.

## 8.6

The headings in this Agreement are for convenience of reference only, will not be deemed to be a part of this Agreement, and will not be referred to in connection with the construction or interpretation of this Agreement. As used in this Agreement, the words "include" and "including" and variations thereof, will not be deemed to be terms of limitation, but rather will be deemed to be followed by the words "without limitation".

## 9. Other Vendors Terms and Conditions

- The Telenav Software utilizes map and other data licensed to Telenav by third party vendors for the benefit of you and other end users. This Agreement includes end-user terms applicable to these companies (included at the end of this Agreement), and thus your use of the Telenav Software is also subject to such terms. You agree to comply with the following additional terms and conditions, which are applicable to Telenav's third party vendor licensors:

## 9.1 End User Terms Required by HERE North America, LLC

The data ("Data") is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and Telenav ("Telenav") and its licensors (including their licensors and suppliers) on the other hand.

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The Data for areas of Canada includes information taken with permission from Canadian authorities, including: © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © Department of Natural Resources Canada.

# Appendices

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The Data for Mexico includes certain data from Instituto Nacional de Estadística y Geografía.

## **9.2 End User Terms Required by NAV2 (Shanghai) Co., Ltd**

The data (“Data”) is provided for your personal, internal use only and not for resale. It is protected by copyright, and is subject to the following terms and conditions which are agreed to by you, on the one hand, and NAV2 (Shanghai) Co., Ltd (“NAV2”) and its licensors (including their licensors and suppliers) on the other hand. 20xx. All rights reserved

### **Terms and Conditions**

**Permitted Use.** You agree to use this Data together with the Telenav Software solely for the internal business and personal purposes for which you were licensed, and not for service bureau, time-sharing or other similar purposes. Accordingly, but subject to the restrictions set forth in the following paragraphs, you agree not to otherwise reproduce, copy, modify, decompile, disassemble, create any derivative works of, or reverse engineer any portion of this Data, and may not transfer or distribute it in any form, for any purpose, except to the extent permitted by mandatory laws.

**Restrictions.** Except where you have been specifically licensed to do so by Telenav, and without limiting the preceding paragraph, you may not use this Data (a) with any products, systems, or applications installed or otherwise connected to or in communication with vehicles, capable of vehicle navigation, positioning, dispatch, real time route guidance, fleet management or similar applications; or (b) with or in communication with any positioning devices or any mobile or wireless-connected electronic or computer devices, including without limitation cellular phones, palmtop and handheld computers, pagers, and personal digital assistants or PDAs.

**Warning.** The Data may contain inaccurate or incomplete information due to the passage of time, changing circumstances, sources used and the nature of collecting comprehensive geographic data, any of which may lead to incorrect results.

**No Warranty.** This Data is provided to you “as is,” and you agree to use it at your own risk. Telenav and its licensors (and their licensors and suppliers) make no guarantees, representations or warranties of any kind, express or implied, arising by law or otherwise, including but not limited to, content, quality, accuracy, completeness, effectiveness, reliability, fitness for a particular purpose, usefulness, use or results to be obtained from this Data, or that the Data or server will be uninterrupted or error-free.

**Disclaimer of Warranty:** TELENAV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) DISCLAIM ANY WARRANTIES, EXPRESS OR IMPLIED, OF QUALITY, PERFORMANCE, MERCHANTABILITY, FITNESS FOR A

# Appendices

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PARTICULAR PURPOSE OR NON-INFRINGEMENT. Some States, Territories and Countries do not allow certain warranty exclusions, so to that extent the above exclusion may not apply to you.

**Disclaimer of Liability:** TELENV AND ITS LICENSORS (INCLUDING THEIR LICENSORS AND SUPPLIERS) SHALL NOT BE LIABLE TO YOU: IN RESPECT OF ANY CLAIM, DEMAND OR ACTION, IRRESPECTIVE OF THE NATURE OF THE CAUSE OF THE CLAIM, DEMAND OR ACTION ALLEGING ANY LOSS, INJURY OR DAMAGES, DIRECT OR INDIRECT, WHICH MAY RESULT FROM THE USE OR POSSESSION OF THE INFORMATION; OR FOR ANY LOSS OF PROFIT, REVENUE, CONTRACTS OR SAVINGS, OR ANY OTHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OF OR INABILITY TO USE THIS INFORMATION, ANY DEFECT IN THE INFORMATION, OR THE BREACH OF THESE TERMS OR CONDITIONS, WHETHER IN AN ACTION IN CONTRACT OR TORT OR BASED ON A WARRANTY, EVEN IF TELENV OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some States, Territories and Countries do not allow certain liability exclusions or damages limitations, so to that extent the above may not apply to you.

**Export Control.** You shall not export from anywhere any part of the Data or any direct product thereof except in compliance with, and with all licenses and approvals required under, applicable export laws, rules and regulations, including but not limited to the laws, rules and regulations administered by the Office of Foreign Assets Control of the U.S. Department of Commerce and the Bureau of Industry and Security of the U.S. Department of Commerce. To the extent that any such

export laws, rules or regulations prohibit HERE from complying with any of its obligations hereunder to deliver or distribute Data, such failure shall be excused and shall not constitute a breach of this Agreement.

**Entire Agreement.** These terms and conditions constitute the entire agreement between Telenav (and its licensors, including their licensors and suppliers) and you pertaining to the subject matter hereof, and supersedes in their entirety any and all written or oral agreements previously existing between us with respect to such subject matter.

**Governing Law.** The above terms and conditions shall be governed by the laws of the State of Illinois [insert "Netherlands" where European HERE Data is used], without giving effect to (i) its conflict of laws provisions, or (ii) the United Nations Convention for Contracts for the International Sale of Goods, which is explicitly excluded. You agree to submit to the jurisdiction of the State of Illinois [insert "The Netherlands" where European HERE Data is used] for any and all disputes, claims and actions arising from or in connection with the Data provided to you hereunder.

**Government End Users.** If the Data is being acquired by or on behalf of the United States government or any other entity seeking or applying rights similar to those customarily claimed by the United States government, this Data is a "commercial item" as that term is defined at 48 C.F.R. ("FAR") 2.101, is licensed in accordance with these End-User Terms, and each copy of Data delivered or otherwise furnished shall be marked and embedded as appropriate with the following "Notice of Use," and shall be treated in accordance with such Notice:

# Appendices

## NOTICE OF USE

CONTRACTOR (MANUFACTURER/  
SUPPLIER) NAME: HERE

CONTRACTOR (MANUFACTURER/  
SUPPLIER) ADDRESS: c/o Nokia, 425  
West Randolph Street, Chicago, Illinois  
60606

This Data is a commercial item as  
defined in FAR 2.101 and is subject to  
these End-User Terms under which this  
Data was provided.

© 1987 – 2014 HERE – All rights reserved.

If the Contracting Officer, federal government agency, or any federal official refuses to use the legend provided herein, the Contracting Officer, federal government agency, or any federal official must notify HERE prior to seeking additional or alternative rights in the Data.

### I. US/Canada Territory

A. United States Data. The End-User Terms for any Application containing Data for the United States shall contain the following notices:

“HERE holds a non-exclusive license from the United States Postal Service® to publish and sell ZIP+4® information.”

“©United States Postal Service® 20XX. Prices are not established, controlled or approved by the United States Postal Service®. The following trademarks and registrations are owned by the USPS: United States Postal Service, USPS, and ZIP+4.”

B. Canada Data. The following provisions apply to the Data for Canada, which may include or reflect data from third party licensors (“Third Party Data”), including Her Majesty the Queen in Right of Canada (“Her Majesty”), Canada Post Corporation (“Canada Post”) and the Department of Natural Resources of Canada (“NRCan”):

1. Disclaimer and Limitation: Client agrees that its use of the Third Party Data is subject to the following provisions:

a. Disclaimer: The Third Party Data is licensed on an “as is” basis. The licensors of such data, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data, either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose.

b. Limitation on Liability: The Third Party Data licensors, including Her Majesty, Canada Post and NRCan, shall not be liable: (i) in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of such Data; or (ii) in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the Data.

# Appendices

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2. Copyright Notice: In connection with each copy of all or any portion of the Data for the Territory of Canada, Client shall affix in a conspicuous manner the following copyright notice on at least one of: (i) the label for the storage media of the copy; (ii) the packaging for the copy; or (iii) other materials packaged with the copy, such as user manuals or end user license agreements: "This data includes information taken with permission from Canadian authorities, including © Her Majesty the Queen in Right of Canada, © Queen's Printer for Ontario, © Canada Post Corporation, GeoBase®, © The Department of Natural Resources Canada. All rights reserved!"

3. End-User Terms: Except as otherwise agreed by the parties, in connection with the provision of any portion of the Data for the Territory of Canada to End-Users as may be authorized under the Agreement, Client shall provide such End-Users, in a reasonably conspicuous manner, with terms (set forth with other end user terms required to be provided under the Agreement, or as otherwise may be provided, by Client) which shall include the following provisions on behalf of the Third Party Data licensors, including Her Majesty, Canada Post and NRCan:

The Data may include or reflect data of licensors, including Her Majesty the Queen in the Right of Canada ("Her Majesty"), Canada Post Corporation ("Canada Post") and the Department of Natural Resources Canada ("NRCan"). Such data is licensed on an "as is" basis. The licensors, including Her Majesty, Canada Post and NRCan, make no guarantees, representations or warranties respecting such data,

either express or implied, arising by law or otherwise, including but not limited to, effectiveness, completeness, accuracy or fitness for a particular purpose. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in respect of any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action alleging any loss, injury or damages, direct or indirect, which may result from the use or possession of the data or the Data. The licensors, including Her Majesty, Canada Post and NRCan, shall not be liable in any way for loss of revenues or contracts, or any other consequential loss of any kind resulting from any defect in the data or the Data.

End User shall indemnify and save harmless the licensors, including Her Majesty, Canada Post and NRCan, and their officers, employees and agents from and against any claim, demand or action, irrespective of the nature of the cause of the claim, demand or action, alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of the use or possession of the data or the Data.

4. Additional Provisions: The terms contained in this Section are in addition to all of the rights and obligations of the parties under the Agreement. To the extent that any of the provisions of this Section are inconsistent with, or conflict with, any other provisions of the Agreement, the provisions of this Section shall prevail.



# Appendices

II. Mexico. The following provision applies to the Data for Mexico, which includes certain data from the Instituto Nacional de Estadística y Geografía (“INEGI”):

A. Any and all copies of the Data and/or packaging containing Data for Mexico shall contain the following notice: “Fuente: INEGI (Instituto Nacional de Estadística y Geografía)”

### III. Latin America Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Territory Notice

Argentina IGN “INSTITUTO GEOGRAFICO NACIONAL ARGENTINO”

Ecuador “INSTITUTO GEOGRAFICO MILITAR DEL ECUADOR AUTORIZACION N° IGM-2011-01- PCO-01 DEL 25 DE ENERO DE 2011”  
“source: © IGN 2009 - BD TOPO ®”

Guadeloupe, French Guiana and Martinique Mexico “Fuente: INEGI (Instituto Nacional de Estadística y Geografía)”

### IV. Middle East Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Country Notice

Jordan “© Royal Jordanian Geographic Centre”. The foregoing notice requirement for Jordan Data is a material term of the Agreement. If Client or any of its permitted sublicensees (if any) fail to meet such requirement, HERE shall have the right to terminate Client’s license with respect to the Jordan Data.

B. Jordan Data. Client and its permitted sublicensees (if any) are restricted from licensing and/or otherwise distributing HERE’s database for the country of Jordan (“Jordan Data”) for use in Enterprise Applications to (i) non-Jordanian entities for use of the Jordan Data solely in Jordan or (ii) Jordan-based customers. In addition, Client, its permitted sublicensees (if any) and End-Users are restricted from using the Jordan Data in Enterprise Applications if such party is (i) a non-Jordanian entity using the Jordan Data solely in Jordan or (ii) a Jordan-based customer. For purposes of the foregoing, “Enterprise Applications” shall mean Geomarketing applications, GIS applications, mobile business asset management applications, call center applications, telematics applications, public organization Internet applications or for providing geocoding services.

# Appendices

## V. Europe Territory

### A. Use of Certain Traffic Codes in Europe

1. General Restrictions Applicable to Traffic Codes. Client acknowledges and agrees that in certain countries of the Europe Territory, Client will need to obtain rights directly from third party RDS-TMC code providers to receive and use the Traffic Codes in the Data and to deliver to End-Users Transactions in any way derived from or based on such Traffic Codes. For such countries, HERE shall deliver the Data incorporating Traffic Codes to Client only after receiving certification from Client of its having obtained such rights.

2. Display of Third Party Rights Legends for Belgium. Client shall, for each Transaction that uses Traffic Codes for Belgium, provide the following notice to the End-User: "Traffic Codes for Belgium are provided by the Ministerie van de Vlaamse Gemeenschap and the Ministère de l'Équipement et des Transports."

B. Paper Maps. With respect to any license granted to Client relating to making, selling or distributing paper maps (i.e., a map fixed on a paper or paper-like medium): (a) such license with respect to Data for the Territory of Great Britain is conditioned on Client's entering into and complying with a separate written agreement with the Ordnance Survey ("OS") to create and sell paper maps, Client's paying to the OS any and all applicable paper map royalties, and Client's complying with the OS copyright notice requirements; (b) such license for selling or otherwise distributing for charge with respect to Data for the Territory of Czech Republic

is conditioned on Client's obtaining prior written consent from Kartografie a.s.; (c) such license for selling or distributing with respect to Data for the Territory of Switzerland is conditioned on Client's obtaining a permit from Bundesamt für Landestopografie of Switzerland; (d) Client is restricted from using Data for the Territory of France to create paper maps with a scale between 1:5,000 and 1:250,000; and (e) Client is restricted from using any Data to create, sell or distribute paper maps that are the same or substantially similar, in terms of data content and specific use of color, symbols and scale, to paper maps published by the European national mapping agencies, including without limitation, Landvermessungämter of Germany, Topografische Dienst of the Netherlands, Nationaal Geografisch Instituut of Belgium, Bundesamt für Landestopografie of Switzerland, Bundesamt für Eich-und Vermessungswesen of Austria, and the National Land Survey of Sweden.

C. OS Enforcement. Without limiting Section IV(B) above, with respect to Data for the Territory of Great Britain, Client acknowledges and agrees that the Ordnance Survey ("OS") may bring a direct action against Client to enforce compliance with the OS copyright notice (see Section IV(D) below) and paper map requirements (see Section IV(B) above) contained in this Agreement.

D. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Country(ies) Notice

# Appendices

Austria “© Bundesamt für Eich- und Vermessungswesen”

Croatia  
Cyprus,  
Estonia,  
Latvia,  
Lithuania,  
Moldova,  
Poland,  
Slovenia  
and/or  
Ukraine

“© EuroGeographics”

France “source: © IGN 2009 – BD TOPO ®”

Germany “Die Grundlagendaten wurden mit Genehmigung der zuständigen Behörden entnommen”

Great Britain “Contains Ordnance Survey data © Crown copyright and database right 2010 Contains Royal Mail data © Royal Mail copyright and database right 2010”

Greece “Copyright Geomatics Ltd.”

Hungary “Copyright © 2003; Top-Map Ltd.”

Italy “La Banca Dati Italiana è stata prodotta usando quale riferimento anche cartografia numerica ed al tratto prodotta e fornita dalla Regione Toscana.”

Norway “Copyright © 2000; Norwegian Mapping Authority”

Portugal “Source: IgeoE – Portugal”

Spain “Información geográfica propiedad del CNIG”

Sweden “Based upon electronic data © National Land Survey Sweden.”

Switzerland “Topografische Grundlage: © Bundesamt für Landestopographie.

E. Respective Country Distribution. Client acknowledges that HERE has not received approvals to distribute map data for the following countries in such respective countries: Albania, Belarus, Kyrgyzstan, Moldova and Uzbekistan. HERE may update such list from time to time. The license rights granted to Client under this TL with respect to the Data for such countries are contingent upon Client’s compliance with all applicable laws and regulations, including, without limitation, any required licenses or approvals to distribute the Application incorporating such Data in such respective countries.

## VI. Australia Territory

A. Third Party Notices. Any and all copies of the Data and/or packaging relating thereto shall include the respective Third Party Notices set forth below and used as described below corresponding to the Territory (or portion thereof) included in such copy:

Copyright. Based on data provided under license from PSMA Australia Limited ([www.pasma.com.au](http://www.pasma.com.au)).

# Appendices

Product incorporates data which is © 20XX Telstra Corporation Limited, GM Holden Limited, Intelomatics Australia Pty Ltd and Continental Pty Ltd.

B. Third Party Notices for Australia. In addition to the foregoing, the End-User Terms for any Application containing RDS-TMC Traffic Codes for Australia shall contain the following notice: “Product incorporates traffic location codes which is © 20XX Telstra Corporation Limited and its licensors.”

## **AT&T Vehicle Network Carrier Telematics Disclosure**

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# Appendices

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# Appendices

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# Appendices

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FCC ID: ACJ-SYNCG3-L

IC: 216B-SYNCG3-L

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

- (1)** This device may not cause harmful interference, and
- (2)** this device must accept any interference received, including interference that may cause undesired operation.



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



# Appendices

## Taiwan Territory

Note: In accordance with the management approach of low-power radio wave radiation motors:

Article 12: For approved and certified low-power radiation motor models, companies, firms or users must not alter the frequency, increase the power or change the characteristics and functions of the original design without authorization.

Article 14: The usage of low-power radio-frequency motors must not affect aviation safety and interfere with legal telecommunications. Should interference be detected, immediately stop using the device and only resume usage after ensuring that there is no longer any interference. For the legal telecommunication and wireless telecommunication of the telco, the low-power radio frequency motor must be able to tolerate legal limits of interference from telecommunication, industrial, scientific and radio wave equipment.

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# Appendices

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# DECLARATION OF CONFORMITY - VEHICLES WITH: SYNC 3

## Radio Frequency Statement

SYNC Version	FCC Identification Number	IC Identification Number
3.0	ACJ-SYNCG3-L	216B-SYNCG3-L
3.1	ACJ-FA-170-BCARHS	216B-FA170BCARHS
3.2	ACJ-FG-185-SG32MH	216B-FG185SG32MH



**WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The term "IC:" before the radio certification number only signifies that Industry Canada technical specifications were met.

These devices comply with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. The device does not cause harmful interference.
2. The device accepts any interference received, including interference that could cause undesired operation.



# Index

## A

- A/C
  - See: Climate Control.....127
- About This Manual.....9
- About This Supplement - Mach 1.....9
  - Mach 1 History.....10
- ABS
  - See: Brakes.....171
- ABS driving hints
  - See: Hints on Driving With Anti-Lock Brakes.....171
- Accessories.....438
- Accessories
  - See: Replacement Parts Recommendation.....19
- ACC
  - See: Using Adaptive Cruise Control.....185
- Adjusting the Headlamps.....272
  - Horizontal Aim Adjustment.....274
  - Vertical Aim Adjustment.....272
- Adjusting the Steering Wheel.....75
- Airbag Disposal.....57
- Air Conditioning
  - See: Climate Control.....127
- Air Filter
  - See: Changing the Engine Air Filter - 2.3L EcoBoost™/5.0L.....263
  - See: Changing the Engine Air Filter - 5.0L, Mach 1.....262
- Alarm
  - See: Anti-Theft Alarm.....74
- Ambient Lighting.....83
- Anti-Theft Alarm.....74
  - Arming the Alarm.....74
  - Disarming the Alarm.....74
- Appendices.....483
- Apps.....420
  - SiriusXM Traffic and Travel Link.....422
  - Using Apps on an Android Device.....421
  - Using Apps on an iOS Device.....421
  - Using Mobile Navigation on an Android Device.....421
- At a Glance.....23
- Audible Warnings and Indicators.....97
  - Beltminder Warning.....98
  - Direction Indicator Left On.....98
  - Headlamps On Warning Tone.....97
  - Keyless Warning Alert.....97
  - Parking Brake On Warning Tone.....97
  - Transmission Not in Park.....98
- Audio Control.....75
  - You can operate the following functions with the control:.....75
- Audio System.....365
  - General Information.....365
- Audio Unit - Vehicles With: 4.2 Inch Information and Entertainment Display Screen.....365
  - Accessing the Apps Menu.....366
  - Accessing the Clock Settings.....366
  - Accessing the Media Source Menu.....366
  - Accessing the Phone Features.....366
  - Accessing the Settings Menu.....366
  - Accessing the Sound Settings.....366
  - Adjusting the Volume.....366
  - Changing Radio Stations.....366
  - Listening to the Radio.....367
  - Muting the Audio.....367
  - Playing or Pausing Media.....367
  - Switching the Audio Unit On and Off.....367
  - Switching the Display On and Off.....367
  - Using Seek, Fast Forward and Reverse.....367
  - Using the Display Control.....367
  - Using the Number Block.....367
- Audio Unit - Vehicles With: 8 Inch Information and Entertainment Display Screen.....367
  - Accessing the Sound Settings.....368
  - Adjusting the Volume.....368
  - Changing Radio Stations.....368
  - Ejecting the CD.....368
  - Inserting a CD.....368
  - Playing or Pausing Media.....368
  - Switching the Audio Unit On and Off.....368
  - Using Seek, Fast Forward and Reverse.....369
- Autolamps.....81
  - Windshield Wiper Activated Headlamps.....81
- Automatic Climate Control.....128
  - Setting the Blower Motor Speed.....128
  - Setting the Temperature.....129
  - Switching Auto Mode On and Off.....129
  - Switching Defrost On and Off.....129

# Index

Switching Maximum Air Conditioning On and Off.....	129
Switching Maximum Defrost On and Off.....	129
Switching Recirculated Air On and Off.....	130
Switching the Air Conditioning On and Off.....	129
Switching the Climate Control On and Off.....	129
Automatic High Beam Control.....	84
Automatic High Beam Control Indicators.....	84
Automatic Transmission.....	165
Automatic Transmission Adaptive Learning.....	168
Brake-Shift Interlock.....	167
If Your Vehicle Gets Stuck in Mud or Snow.....	168
SelectShift Automatic™ Transmission.....	166
Understanding the Positions of Your Automatic Transmission.....	166
Automatic Transmission Fluid Check.....	269
Autowipers.....	78
Auxiliary Power Points.....	145
12 Volt DC Power Point.....	145
Locations.....	145

## B

Battery	
See: Changing the 12V Battery.....	270
Blind Spot Information System.....	196
.....	197
Switching the System On and Off.....	198
System Errors.....	198
Using the Blind Spot Information System.....	197
BLIS	
See: Blind Spot Information System.....	196
Body Styling Kits.....	298
Bonnet Lock	
See: Opening and Closing the Hood.....	256
Booster Seats.....	35
Types of Booster Seats.....	36

Brake Fluid Check.....	269
Brake Fluid Service Interval.....	270
Brakes.....	171
General Information.....	171
Brake System Specifications - Mach 1.....	337
Breaking-In.....	230
Ground Clearance.....	230
Bulb Specification Chart.....	359

## C

Canceling the Set Speed.....	185
Capacities and Specifications - 2.3L EcoBoost™.....	343
Air Conditioning System.....	344
Alternative Engine Oil for Extremely Cold Climates.....	347
Automatic Transmission.....	344
Engine Coolant.....	345
Engine Oil 2.3L EcoBoost Base.....	346
Engine Oil 2.3L EcoBoost High Output.....	348
Fuel Tank.....	349
Grease.....	349
Hydraulic Brake System.....	350
Locks.....	350
Manual Transmission.....	345
Rear Axle.....	350
Washer Reservoir.....	351
Capacities and Specifications - 5.0L.....	351
Air Conditioning System.....	352
Alternative Engine Oil for Extremely Cold Climates.....	355
Automatic Transmission.....	352
Engine Coolant.....	354
Engine Oil.....	355
Fuel Tank.....	356
Grease.....	356
Hydraulic Brake System.....	357
Locks.....	357
Manual Transmission - 3160.....	354
Manual Transmission - MT82.....	353
Rear Axle.....	357
Washer Reservoir.....	358
Capacities and Specifications.....	335

# Index

Car Wash	
See: Cleaning the Exterior.....	291
See: Cleaning the Exterior - Mach 1.....	291
Catalytic Converter.....	161
On-Board Diagnostics (OBD-II).....	162
Readiness for Inspection and Maintenance (I/M) Testing.....	162
Center Console.....	146
Locking Storage Bin.....	146
Changing a Bulb.....	275
LED Lamps.....	275
Replacing Reverse Lamp Bulbs.....	275
Changing a Fuse.....	254
Fuses.....	254
Changing a Road Wheel.....	328
Dissimilar Spare Wheel and Tire Assembly Information.....	328
Tire Change Procedure.....	329
Changing the 12V Battery.....	270
Battery Management System.....	271
Remove and Reinstall the Battery.....	272
Changing the Engine Air Filter - 2.3L EcoBoost™/5.0L.....	263
Changing the Engine Air Filter - 5.0L, Mach 1.....	262
Changing the Vehicle Wi-Fi Hotspot Name or Password.....	364
Changing the Wiper Blades.....	274
Checking MyKey System Status.....	65
Checking the Wiper Blades.....	274
Child Restraint and Seatbelt Maintenance.....	46
Child Restraint Positioning.....	37
Child Safety.....	25
General Information.....	25
Cleaning Leather Seats.....	295
Cleaning Products.....	290
Materials.....	290
Cleaning the Convertible Top.....	298
Cleaning the Engine.....	293
Cleaning the Engine - Mach 1.....	293
Cleaning the Exterior.....	291
Cleaning the Exterior Lamps.....	292
Cleaning the Exterior Precautions.....	292
Exterior Chrome Parts.....	292
Exterior Plastic Parts.....	292
Stripes or Graphics.....	292
Underbody.....	292
Under Hood.....	292
Cleaning the Exterior - Mach 1.....	291
Washing Your Vehicle.....	291
Cleaning the Instrument Panel and Instrument Cluster Lens.....	295
Cleaning the Interior.....	294
Mirrors.....	294
Cleaning the Wheels.....	296
Cleaning the Windows and Wiper Blades.....	294
Clearing All MyKeys.....	64
Clearing the Garage Door Opener.....	143
Climate.....	411
Accessing Rear Climate Controls.....	413
Accessing the Climate Control Menu.....	411
Directing the Airflow.....	411
Rear Climate Control Lock Indicator.....	413
Setting the Blower Motor Speed.....	411
Setting the Temperature.....	411
Switching Auto Mode On and Off.....	411
Switching Dual Zone Mode On and Off.....	412
Switching Maximum Air Conditioning On and Off.....	412
Switching Maximum Defrost On and Off.....	412
Switching Rear Auto Mode On and Off.....	413
Switching Recirculated Air On and Off.....	413
Switching the Air Conditioning On and Off.....	411
Switching the Climate Controlled Seats On and Off.....	412
Switching the Climate Control On and Off.....	412
Switching the Heated Exterior Mirrors On and Off.....	412
Switching the Heated Rear Window On and Off.....	412
Switching the Heated Seats On and Off.....	412
Switching the Heated Steering Wheel On and Off.....	412
Switching the Heated Windshield On and Off.....	412
Switching the Rear Climate Controlled Seats On and Off.....	413

# Index

Switching the Rear Heated Seats On and Off.....	413
Switching the Rear Ventilated Seats On and Off.....	413
Switching the Ventilated Seats On and Off.....	413
Climate Control.....	127
Climate Controlled Seats.....	139
Cooled Seats.....	140
Heated Seats.....	139
Closing the Convertible Top.....	227
Clutch Fluid Check - Manual Transmission.....	270
Cold Weather Precautions.....	230
Connected Vehicle.....	360
Connecting the Vehicle to a Mobile Network.....	360
Connected Vehicle Limitations.....	360
Connected Vehicle Requirements.....	360
Connected Vehicle – Troubleshooting - Vehicles With: Modern.....	361
Connected Vehicle – Troubleshooting - Vehicles With: SYNC 3.....	362
Connecting the Vehicle to a Mobile Network.....	360
Connecting FordPass to the Modem.....	360
Enabling and Disabling the Modem.....	360
What Is the Modem.....	360
Connecting the Vehicle to a Wi-Fi Network.....	360
Convertible Top.....	226
Coolant Check	
See: Engine Coolant Check.....	264
Crash Sensors and Airbag Indicator.....	56
Creating a MyKey.....	64
Creating a Vehicle Wi-Fi Hotspot.....	364
Connecting a Device to the Wi-Fi Hotspot.....	364
Finding the Wi-Fi Hotspot Name and Password.....	364
Cross Traffic Alert.....	198
Cross Traffic Alert Behavior When Trailer is Attached.....	200
Cross Traffic Alert Indicator.....	201
Cross Traffic Alert Information Messages.....	201
Cross Traffic Alert System Limitations.....	200
Cross Traffic Alert System Sensors.....	200
Switching the System On and Off.....	200
Using Cross Traffic Alert.....	198
Cruise Control.....	184
Cruise Control Indicators.....	185
Cruise Control - Vehicles With: Adaptive Cruise Control.....	76
Cruise Control - Vehicles With: Cruise Control.....	76
Customer Assistance.....	238
Customer Information.....	451
Radio Frequency Certification Labels.....	451

## D

Data Recording.....	15
Comfort, Convenience and Entertainment Data.....	17
Event Data.....	16
Service Data.....	16
Services That Third Parties Provide.....	17
Services That We Provide.....	17
Vehicles With a Modem.....	17
Vehicles With an Emergency Call System.....	18
Vehicles With SYNC.....	18
Daytime Running Lamps - Vehicles With: Configurable Daytime Running Lamps.....	82
Daytime Running Lamps - Vehicles With: Daytime Running Lamps (DRL).....	82
Declaration of Conformity - Vehicles With: SYNC 3.....	511
Radio Frequency Statement.....	511
Digital Radio.....	369
HD Radio Reception and Station Troubleshooting.....	370
Direction Indicators.....	83
Doors and Locks.....	67
Drive Control.....	209
Active Exhaust.....	211
Adaptive Dampers.....	211
Rev Match.....	212
Selectable Drive Modes.....	209
Selectable Steering.....	211
Drive Control - Mach 1.....	206
Active Exhaust.....	208
No Lift Shift.....	209

# Index

Rev Match.....	208	Engine Specifications - 2.3L	
Selectable Drive Modes.....	206	EcoBoost™.....	335
Selectable Steering.....	208	Drivebelt Routing.....	335
Driver Alert.....	191	Engine Specifications - 5.0L, Mach	
Using Driver Alert.....	191	1.....	335
Driver and Passenger Airbags.....	49	Drivebelt Routing.....	336
Children and Airbags.....	50	Engine Specifications - 5.0L.....	337
Proper Driver and Front Passenger Seating		Drivebelt Routing.....	337
Adjustment.....	49	Entertainment.....	401
Driver and Passenger Knee Airbags.....	54	AM/FM Radio.....	402
Driving Aids.....	191	Apps.....	410
Driving at High Speed.....	333	CD.....	408
Driving Hints.....	229	HD Radio™ Information (If	
Driving Through Water.....	230	Available).....	405
DRL		SiriusXM® Satellite Radio (If	
See: Daytime Running Lamps - Vehicles With:		Activated).....	403
Configurable Daytime Running		Sources.....	401
Lamps.....	82	Stereo or USB.....	409
See: Daytime Running Lamps - Vehicles With:		Supported Media Players, Formats and	
Daytime Running Lamps (DRL).....	82	Metadata Information.....	410
		USB Ports.....	410
<b>E</b>		Environment.....	22
Economical Driving.....	229	Essential Towing Checks.....	220
Electromagnetic Compatibility.....	483	Before Towing a Trailer.....	220
Emission Law.....	160	Hitches.....	220
Tampering With a Noise Control		Launching or Retrieving a Boat or Personal	
System.....	160	Watercraft (PWC).....	221
Enabling Remote Start.....	124	Safety Chains.....	220
End User License Agreement.....	486	Trailer Brakes.....	220
VEHICLE SOFTWARE END USER LICENSE		Trailer Lamps.....	220
AGREEMENT (EULA) .....	486	When Towing a Trailer.....	221
Engine Block Heater.....	150	Event Data Recording	
Using the Engine Block Heater.....	151	See: Data Recording.....	15
Engine Coolant Check.....	264	Export Unique Options.....	21
Adding Coolant.....	264	Extending the Remote Start	
Coolant Change.....	266	Duration.....	124
Engine Coolant Temperature		Exterior Mirrors.....	87
Management.....	267	Blind Spot Monitor.....	88
Fail-Safe Cooling.....	266	Fold-Away Exterior Mirrors.....	87
Recycled Coolant.....	265	Heated Exterior Mirrors.....	87
Severe Climates.....	266	Integrated Blind Spot Mirrors.....	87
Engine Emission Control.....	160	Memory Mirrors.....	87
Engine Immobilizer		Power Exterior Mirrors.....	87
See: Passive Anti-Theft System.....	73	Projection Lights.....	87
Engine Oil Check.....	261	Signal Indicator Mirrors.....	87
Adding Engine Oil.....	261		
Engine Oil Dipstick.....	261		



# Index

## F

Fastening the Seatbelts.....	41
Seatbelt Locking Modes.....	43
Using Seatbelts During Pregnancy.....	42
Flat Tire	
See: Changing a Road Wheel.....	328
Flat Tire Inflation	
See: Tire Sealant and Inflator Kit.....	299
Floor Mats.....	231
Fog Lamps - Front	
See: Front Fog Lamps.....	82
Ford Credit.....	19
US Only.....	19
Ford Protect.....	439
Ford Protect Extended Service Plan (CANADA ONLY).....	440
Ford Protect Extended Service Plans (U.S. Only).....	439
Front Fog Lamps.....	82
Front Fog Lamp Indicator.....	83
Switching the Front Fog Lamps On or Off.....	82
Front Passenger Sensing System.....	50
Fuel and Refueling.....	152
Fuel Consumption.....	158
Advertised Capacity.....	158
Calculating Fuel Economy.....	159
Filling the Fuel Tank.....	159
Fuel Filler Funnel Location.....	154
Fuel Filter.....	274
Fuel Quality.....	153
Choosing the Right Fuel.....	153
Fuel Quality - Mach 1.....	152
Choosing the Right Fuel.....	152
Fuel Shutoff.....	233
Fuses.....	245
Fuse Specification Chart.....	245
Passenger Compartment Fuse Panel.....	251
Power Distribution Box.....	245

## G

Garage Door Opener.....	141
Garage Door Opener Limitations.....	141
Garage Door Opener Precautions.....	141

Garage Door Opener Radio	
Frequencies.....	144
FCC and RSS-210 Industry Canada Compliance.....	144
Gauges - Mach 1.....	90
Oil Pressure Gauge.....	90
Vacuum Gauge.....	90
Gauges - Vehicles With: 12.3 Inch Instrument Cluster Display	
Screen.....	90
Engine Coolant Temperature Gauge.....	91
Fuel Gauge.....	91
Gauge Package.....	92
Information Bar.....	91
Information Display.....	91
Gauges - Vehicles With: 4.2 Inch Instrument Cluster Display	
Screen.....	92
Engine Coolant Temperature Gauge.....	93
Fuel Gauge.....	93
Gauge Package.....	94
Information Bar.....	93
Information Display.....	93
Gearbox	
See: Transmission.....	164
General Information on Radio	
Frequencies.....	58
Intelligent Access.....	58
General Maintenance Information.....	441
Multi-Point Inspection.....	444
Owner Checks and Services.....	443
Protecting Your Investment.....	441
Why Maintain Your Vehicle?.....	441
Why Maintain Your Vehicle at Your Dealership?.....	441
Getting Assistance Outside the U.S. and Canada.....	241
Getting the Services You Need.....	238
Away From Home.....	238
Glasses Holder.....	146
Global Opening.....	86
Opening the Windows.....	87

## H

Handbrake	
See: Parking Brake.....	172
Hazard Flashers.....	233

# Index

Headlamp Adjusting	
See: Adjusting the Headlamps.....	272
Headlamp Exit Delay.....	81
Headrest	
See: Head Restraints.....	134
Head Restraints.....	134
Adjusting the Head Restraint.....	135
Front Seat Non-Adjustable Head Restraints	
.....	135
Tilting Head Restraints .....	136
Heated Exterior Mirrors.....	132
Heated Rear Window.....	132
Heating	
See: Climate Control.....	127
Hill Start Assist.....	173
Switching the System On and Off.....	173
Using Hill Start Assist.....	173
Hints on Controlling the Interior Climate	
- Vehicles With: Automatic	
Temperature Control.....	131
Defogging the Side Windows in Cold	
Weather.....	132
General Hints.....	131
Quickly Cooling the Interior.....	131
Quickly Heating the Interior.....	131
Recommended Settings for Cooling.....	131
Recommended Settings for Heating.....	131
Hints on Controlling the Interior Climate	
- Vehicles With: Manual Temperature	
Control.....	130
Defogging the Side Windows in Cold	
Weather.....	131
General Hints.....	130
Quickly Cooling the Interior.....	130
Quickly Heating the Interior.....	130
Recommended Settings for Cooling.....	130
Recommended Settings for Heating.....	130
Vehicle Stationary for Extended Periods	
During Extreme High Ambient	
Temperatures.....	130
Hints on Driving With Anti-Lock	
Brakes.....	171
Hood Lock	
See: Opening and Closing the Hood.....	256
Horn.....	77
How Does the Garage Door Opener	
Work.....	141
In California (U.S. Only).....	239
Information Display Control - Vehicles	
With: SYNC 3.....	76
Quick Action Menu.....	77
Information Display Control - Vehicles	
With: SYNC.....	76
Information Displays.....	99
General Information - Mach 1.....	99
General Information - Vehicles With: 12.3	
Inch Instrument Cluster Display	
Screen.....	109
General Information - Vehicles With: 4.2	
Inch Instrument Cluster Display	
Screen.....	103
Information Messages.....	113
Adaptive Cruise Control.....	113
Airbag.....	114
Alarm.....	114
Battery and Charging System.....	114
Blind Spot Information and Cross Traffic	
Alert System.....	115
Doors and Locks.....	116
Drive Control.....	116
Electronic Stability Control.....	116
Engine.....	116
Exhaust Mode.....	117
Fuel.....	117
Hill Start Assist.....	117
Keys and Passive Key.....	117
Maintenance.....	118
MyKey.....	119
Park Aid.....	119
Park Brake.....	120
Pre-Collision Assist.....	120
Rear Axle.....	120
Remote Start.....	120
Seats.....	121
Starting System .....	121
Steering System.....	122
Suspension System.....	122
Tire Mobility Kit.....	122
Tire Pressure Monitoring System.....	123
Traction Control.....	123
Transmission.....	123
Installing Child Restraints - Mach 1.....	27
Rear Seat Delete.....	27

# Index

Installing Child Restraints - Vehicles	
With: SVT Performance Package.....	34
Rear Seat Delete.....	34
Installing Child Restraints - Vehicles	
Without: SVT Performance	
Package.....	28
Child Seats.....	28
Using Lap and Shoulder Belts.....	28
Using Lower Anchors and Tethers for	
Children (LATCH).....	31
Using Tether Straps.....	32
Instrument Cluster.....	90
Instrument Lighting Dimmer.....	81
Instrument Panel.....	23
Interior Air Quality.....	133
Interior Lamps.....	83
Interior Luggage Compartment	
Release.....	72
Interior Mirror.....	88
Auto-Dimming Mirror.....	88
Introduction.....	9
<b>J</b>	
Jump Starting the Vehicle.....	234
Connecting the Jumper Cables.....	234
Installing the Battery Shield.....	236
Preparing Your Vehicle.....	234
Removing the Battery Shield.....	234
Removing the Jumper Cables.....	235
Starting the Engine.....	235
<b>K</b>	
Keyless Starting.....	147
Ignition Modes.....	147
Keys and Remote Controls.....	58
<b>L</b>	
Lane Keeping System.....	192
Switching the System On and Off.....	193
Lighting Control.....	80
Flashing the Headlamp High Beam.....	81
Headlamp High Beam.....	80
Lighting.....	80
General Information.....	80
Limited Slip Differential.....	170
Traction-Lok™ and TORSEN™ Axles.....	170
Load Carrying.....	213
Load Limit.....	213
Special Loading Instructions - for all	
vehicles.....	217
Vehicle Loading - with and without a	
Trailer.....	213
Locating the Cabin Air Filter.....	133
Locking and Unlocking.....	67
Activating Intelligent Access.....	68
Autolock.....	69
Battery Saver.....	72
Illuminated Entry.....	71
Illuminated Exit.....	72
Locking and Unlocking the Doors with the	
Key Blade.....	70
Opening the Luggage Compartment.....	71
Power Door Locks.....	67
Remote Control.....	67
Smart Unlocks.....	69
Lug Nuts	
See: Changing a Road Wheel.....	328
<b>M</b>	
Maintenance.....	256
General Information.....	256
Manual Climate Control.....	127
Directing the Airflow.....	127
Setting the Blower Motor Speed.....	127
Setting the Temperature.....	127
Switching Maximum Air Conditioning On	
and Off.....	128
Switching Maximum Defrost On and	
Off.....	128
Switching Recirculated Air On and	
Off.....	128
Switching the Air Conditioning On and	
Off.....	127
Switching the Climate Control On and	
Off.....	128
Manual Seats.....	136
Manual Transmission Fluid Check -	
6-Speed Manual Transmission -	
3160.....	268

# Index

Manual Transmission Fluid Check - 6-Speed Manual Transmission - MT82.....	268
Manual Transmission.....	164
Parking Your Vehicle.....	165
Recommended Shift Speeds.....	164
Reverse (R).....	165
Using the Clutch.....	164
Memory Function.....	137
Easy Entry and Exit Feature.....	138
Linking a Preset Position to your Remote Control or Intelligent Access Key Fob.....	138
Saving a Preset Position.....	138
Message Center See: Information Displays.....	99
Mirrors See: Windows and Mirrors.....	86
Mobile Communications Equipment.....	20
Motorcraft Parts - 2.3L EcoBoost™.....	340
Motorcraft Parts - 5.0L, Bullitt/Mach 1.....	342
Motorcraft Parts - 5.0L.....	341
MyKey Settings.....	63
Configurable MyKey Settings.....	63
Non-Configurable MyKey Settings.....	63
MyKey - Troubleshooting.....	65
MyKey - Frequently Asked Questions.....	66
MyKey - Information Messages.....	65
MyKey™.....	63
MyKey Settings.....	63
MyKey - Troubleshooting.....	65
<b>N</b>	
Navigation.....	415
Changing the Format of the Map.....	417
cityseeker.....	419
Michelin Travel Guide.....	420
Navigation Map Accuracy and Updates.....	420
Route Guidance.....	417
Setting a Destination.....	416
SiriusXM Traffic and Travel Link.....	420
Zoom.....	417
Normal Scheduled Maintenance.....	444
Intelligent Oil-Life Monitor™.....	444
Normal Maintenance Intervals.....	445
Track Use Maintenance Intervals.....	447
<b>O</b>	
Oil Change Indicator Reset.....	261
Oil Check See: Engine Oil Check.....	261
Opening and Closing the Hood.....	256
Closing the Hood.....	257
Opening the Hood.....	256
Opening the Convertible Top.....	226
Using the Tonneau Caps.....	227
Ordering Additional Owner's Literature.....	243
Obtaining a French Owner's Manual.....	243
Overriding Automatic High Beam Control.....	84
<b>P</b>	
Parking Aids.....	178
Principle of Operation.....	178
Parking Brake.....	172
All Vehicles.....	172
Vehicles With Automatic Transmission.....	172
Vehicles with Manual Transmission.....	172
Passive Anti-Theft System.....	73
SecuriLock.....	73
PATS See: Passive Anti-Theft System.....	73
Perchlorate.....	19
Personal Safety System™.....	47
How Does the Personal Safety System Work?.....	47
Phone.....	413
Android Auto.....	415
Apple CarPlay.....	415
Pairing Your Cell Phone for the First Time.....	414
Text Messaging.....	414
Using Your Cell Phone.....	414
Post-Crash Alert System.....	236
Power Door Locks See: Locking and Unlocking.....	67

# Index

Power Seats.....	137	Second Row Split-Folding Rear Seat .....	139
Power Lumbar.....	137	Rear View Camera.....	180
Power Steering Fluid Check.....	270	Using the Rear View Camera System.....	181
Power Windows.....	86	Rear View Camera	
Accessory Delay.....	86	See: Rear View Camera.....	180
Bounce-Back.....	86	Recommended Towing Weights.....	219
One-Touch Down.....	86	Reduced Engine Performance.....	229
One-Touch Up.....	86	Reduced Vehicle Top Speed.....	229
Pre-Collision Assist.....	202	Refueling.....	156
Adjusting Pre-Collision Assist		Refueling System Overview.....	156
Settings.....	204	Refueling System Warning.....	158
Blocked Sensors.....	204	Refueling Your Vehicle.....	156
Distance Indication and Alert.....	203	Remote Control.....	58
Using the Pre-Collision Assist		Car Finder.....	62
System.....	203	Intelligent Access Key.....	58
Programming a MyKey.....	64	Memory Feature.....	62
Programming the Garage Door Opener		Replacing the Battery.....	60
to Your Garage Door Opener		Sounding the Panic Alarm.....	62
Motor.....	142	Using the Key Blade.....	59
Programming the Garage Door Opener		Remotely Starting the Engine.....	124
to Your Gate Opener Motor.....	143	Remotely Stopping the Engine.....	125
Gate Operator / Canadian		Remote Start Limitations.....	124
Programming.....	143	Remote Start Remote Control	
Programming the Garage Door Opener		Indicators.....	125
to Your Hand-Held Transmitter.....	142	Remote Control Feedback.....	125
Protecting the Environment.....	22	Remote Start.....	124
Puncture		Remote Start Settings.....	125
See: Changing a Road Wheel.....	328	Remote Start Settings.....	125
		Setting the Remote Start Duration.....	126
<b>R</b>		Switching Climate Control Auto Mode On	
Radio Frequency Certification		and Off.....	125
Labels.....	451	Switching Climate Control Last Settings	
Blind Spot Information System		On and Off.....	125
Sensors.....	451	Switching the Heated Seat Settings On and	
Body Control Module.....	457	Off.....	125
Cruise Control Module.....	459	Switching the Heated Steering Wheel	
Garage Door Opener.....	463	Settings On and Off.....	126
Keys and Remote Controls.....	463	Repairing Minor Paint Damage.....	296
Radio Transceiver Module.....	469	Replacement Parts	
SYNC.....	473	Recommendation.....	19
Tire Pressure Monitoring System		Collision Repairs.....	19
Sensors.....	477	Scheduled Maintenance and Mechanical	
Rear Axle.....	170	Repairs.....	19
Rear Parking Aid.....	179	Warranty on Replacement Parts.....	19
Object Distance Indicator.....	180	Replacing a Lost Key or Remote	
Rear Seats.....	139	Control.....	62
Accessing the Rear Seats.....	139	Replacing the Cabin Air Filter.....	133

# Index

Reporting Safety Defects (Canada Only).....	243
Reporting Safety Defects (U.S. Only).....	243
Reprogramming the Garage Door Opener.....	144
Resuming the Set Speed.....	185
Roadside Assistance.....	232
Vehicles Sold in Canada: Getting Roadside Assistance.....	233
Vehicles Sold in the United States: Getting Roadside Assistance.....	232
Vehicles Sold in the United States: Using Roadside Assistance.....	232
Roadside Emergencies.....	232
Running-In See: Breaking-In.....	230
Running Out of Fuel.....	154
Adding Fuel From a Portable Fuel Container.....	155
Filling a Portable Fuel Container.....	154
<b>S</b>	
Safety Canopy™ - Coupe.....	54
Safety Precautions.....	152
Satellite Radio.....	371
Satellite Radio Electronic Serial Number (ESN).....	372
Satellite Radio Reception Factors.....	372
SiriusXM Satellite Radio Service.....	372
Troubleshooting.....	373
Scheduled Maintenance.....	441
Seatbelt Extensions.....	46
Seatbelt Reminder.....	44
Seatbelt Status.....	45
Seatbelts.....	40
Principle of Operation.....	40
Seatbelt Warning Lamp and Indicator Chime.....	43
Conditions of operation.....	44
Seats.....	134
Security.....	73
Settings.....	423
.....	423
911 Assist.....	423
Ambient Lighting.....	424
Audio.....	423
Automatic Updates.....	423
Charge Settings.....	424
Clock.....	423
Display.....	424
Driver Assist.....	423
FordPass.....	423
General.....	423
Message Center.....	424
Mobile Apps.....	423
Multi Contour Seats.....	424
Navigation.....	424
Personal Profiles.....	424
Phone.....	423
Seats.....	424
Sound.....	423
Valet Mode.....	424
Vehicle.....	423
Voice Control.....	424
Setting the Cruise Control Speed.....	184
Changing the Set Speed.....	184
Side Airbags.....	53
Sitting in the Correct Position.....	134
Snow Chains See: Using Snow Chains.....	323
Spare Wheel See: Changing a Road Wheel.....	328
Special Notices.....	20
New Vehicle Limited Warranty.....	20
On Board Diagnostics Data Link Connector.....	20
Special Instructions.....	20
Special Operating Conditions Scheduled Maintenance.....	447
Exceptions.....	449
Speed Control See: Cruise Control.....	184
Stability Control.....	175
Principle of Operation.....	175
Starting a Gasoline Engine.....	148
Automatic Engine Shutdown.....	149
Failure to Start.....	149
Fast Restart.....	149
Guarding Against Exhaust Fumes.....	150
Important Ventilating Information.....	150
Stopping the Engine When Your Vehicle is Moving.....	150
Stopping the Engine When Your Vehicle is Stationary.....	150

# Index

Starting and Stopping the Engine.....	147
General Information.....	147
Steering.....	201
Adaptive Learning.....	202
Electric Power Steering.....	201
Steering Wheel Lock.....	148
Unlocking the Steering Wheel.....	148
Steering Wheel.....	75
Storage Compartments.....	146
Sun Visors.....	88
Illuminated Vanity Mirror.....	89
Supplementary Restraints System.....	48
Principle of Operation.....	48
Suspension Specifications - Mach 1.....	339
Switching Automatic High Beam Control On and Off.....	84
Activating the Automatic High Beam Control.....	84
Switching Cruise Control On and Off.....	184
Switching Cruise Control Off.....	184
Switching Cruise Control On.....	184
Switching the Heated Steering Wheel On and Off.....	77
Symbols Glossary.....	13
SYNC™ 3.....	392
General Information.....	392
SYNC™ 3 Troubleshooting.....	425
Additional Information and Assistance.....	437
Apps.....	432
Navigation.....	431
Personal Profiles.....	435
Phone.....	429
Resetting the System.....	437
USB and Audio.....	426
Voice Recognition.....	425
Wi-Fi Connectivity.....	434
SYNC™ Applications and Services.....	379
911 Assist.....	379
SYNC Mobile Apps.....	381
SYNC™.....	375
General Information.....	375
SYNC™ Troubleshooting.....	383

## T

Technical Specifications	
See: Capacities and Specifications.....	335
The Better Business Bureau (BBB) Auto Line Program (U.S. Only).....	240
Tire Care.....	305
Glossary of Tire Terminology.....	307
Information About Uniform Tire Quality Grading.....	305
Information Contained on the Tire	
Sidewall.....	308
Temperature A B C.....	306
Traction AA A B C.....	306
Treadwear.....	306
Tire Inflation When Punctured	
See: Tire Sealant and Inflator Kit.....	299
Tire Pressure Monitoring System.....	324
Changing Tires With a Tire Pressure Monitoring System.....	325
Understanding Your Tire Pressure Monitoring System.....	325
Tire Repair Kit	
See: Tire Sealant and Inflator Kit.....	299
Tire Sealant and Inflator Kit.....	299
First Stage: Inflating the Tire with Sealing Compound and Air.....	301
General Information.....	300
Second Stage: Checking Tire Pressure.....	303
Tips for Use of the Kit.....	300
What to Do After the Tire Has Been Sealed.....	303
What to do When a Tire Is Punctured.....	301
Tires	
See: Wheels and Tires.....	299
Towing a Trailer - Mach 1.....	218
Towing a Trailer.....	218
Load Placement.....	218
Towing the Vehicle on Four Wheels.....	225
Emergency Towing.....	225
Recreational Towing.....	225
Towing.....	218
Track Use - Mach 1.....	276
Acceleration Timer.....	277
Accelerometer.....	277

# Index

Adjustable Camber Front Strut Top Mounts (vehicles with Optional Handling Package).....	281
Aerodynamics.....	281
Brake Burnishing.....	282
Brake Performance .....	277
Exhaust Mode .....	277
Lap Timer.....	277
Launch Control.....	277
Line Lock.....	278
Operating at High Speeds and Track Days.....	276
Performance Shift Indicator.....	279
Road Course Alignment Recommendations.....	279
Start Option .....	279
Status Screen .....	279
Track Apps .....	276
Track Tire Pressures.....	280
Track Use Maintenance Intervals.....	280
View/Clear Results .....	279
Track Use.....	283
Acceleration Timer.....	284
Accelerometer.....	284
Adjustable Camber Front Strut Top Mounts.....	286
Aerodynamics.....	286
Brake Burnishing.....	287
Brake Performance .....	284
Catch Can.....	287
Exhaust Mode .....	284
Lap Timer.....	284
Launch Control.....	284
Line Lock.....	284
Operating at High Speeds and Track Days.....	283
Performance Shift Indicator.....	285
Start Option .....	286
Status Screen .....	286
Timing Chain.....	286
Track Apps .....	283
Track Use Maintenance Intervals.....	286
View/Clear Results .....	286
Traction Control.....	174
Principle of Operation.....	174
Transmission.....	164
Technical Specifications - Mach 1.....	168
Transporting the Vehicle - Mach 1.....	222
Alternate Flatbed Method.....	224
Preferred Flatbed Method.....	223
Transporting or Trailering - Mach 1 Handling Package.....	224
Transporting the Vehicle.....	237
<b>U</b>	
Under Hood Overview - 2.3L EcoBoost™.....	258
Under Hood Overview - 5.0L, Mach 1.....	260
Under Hood Overview - 5.0L.....	259
USB Port.....	374
Using Adaptive Cruise Control.....	185
Automatic Cancellation.....	188
Blocked Sensor.....	189
Canceling the Set Speed.....	188
Changing the Set Speed.....	188
Detection Issues.....	188
Following a Vehicle.....	186
Hilly Condition Usage.....	188
Overriding the Set Speed.....	187
Resuming the Set Speed.....	188
Setting the Adaptive Cruise Speed.....	186
Setting the Gap Distance.....	187
Switching Adaptive Cruise Control Off.....	188
Switching Adaptive Cruise Control On.....	186
Switching to Normal Cruise Control.....	190
System Not Available.....	189
Using MyKey With Remote Start Systems.....	65
Using Snow Chains.....	323
Using Stability Control.....	176
Electronic Stability Control .....	176
Using Summer Tires.....	320
Mach 1 Handling Package.....	320
Using SYNC™ With Your Media Player.....	382
Audio Voice Commands.....	383
Media Sources.....	382
Using SYNC™ With Your Phone.....	378
Accessing Features through the Phone Menu.....	379
Pairing a Phone.....	378



# Index

Phone Controls.....	379
Phone Voice Commands.....	378
Using Traction Control.....	174
Switching the System Off .....	174
System Indicator Lights and Messages.....	174
Using Voice Recognition.....	376
Audio Voice Commands.....	395
Climate Voice Commands.....	396
Initiating a Voice Session.....	376
Mobile App Voice Commands.....	399
Navigation Voice Commands.....	398
Phone Voice Commands.....	396
SiriusXM Traffic and Travel Link Voice Commands.....	400
System Interaction and Feedback.....	377
Voice Settings Commands.....	400
Using Winter Tires.....	323
Utilizing the Mediation/Arbitration Program (Canada Only).....	241
<b>V</b>	
Vehicle Care.....	289
General Information.....	289
General Information - GT500/Mach 1.....	289
Vehicle Identification Number.....	343
Vehicle Storage.....	296
Body.....	297
Brakes.....	297
Cooling system.....	297
Disconnecting Your 12 Volt Battery.....	297
Engine.....	297
Fuel system.....	297
General.....	296
Miscellaneous.....	297
Removing Vehicle From Storage.....	298
Tires.....	297
Vehicle Wi-Fi Hotspot.....	364
Ventilation See: Climate Control.....	127
VIN See: Vehicle Identification Number.....	343
Voice Control.....	75

## W

Warning Lamps and Indicators.....	94
Adaptive Cruise Control Indicator.....	94
Airbag Warning Lamp.....	94
Anti-Lock Brake System Warning Lamp.....	94
Automatic Headlamp High Beam Indicator.....	94
Battery.....	94
Blind Spot Information System Indicator.....	95
Brake System Warning Lamp.....	95
Cruise Control Indicator.....	95
Direction Indicator.....	95
Door Ajar Warning Lamp.....	95
Engine Coolant Temperature Warning Lamp.....	95
Fasten Seatbelt Warning Lamp.....	95
Front Fog Lamp Indicator.....	95
Headlamp High Beam Indicator.....	96
Heads Up Display.....	95
Hood Ajar.....	96
Lane Keeping System Lamp.....	96
Launch Control.....	96
Low Beam Malfunction.....	96
Low Fuel Level Warning Lamp.....	96
Low Tire Pressure Warning Lamp.....	96
Low Washer Fluid Level Warning Lamp.....	96
Oil Pressure Warning Lamp.....	96
Parking Lamps.....	96
Powertrain Fault.....	96
Service Engine Soon.....	96
Shift Indicator.....	97
Stability Control and Traction Control Indicator.....	97
Stability Control and Traction Control Off Warning Lamp.....	97
Trunk Ajar.....	97
Washer Fluid Check.....	274
Washers See: Cleaning the Exterior.....	291
See: Cleaning the Exterior - Mach 1.....	291
See: Wipers and Washers.....	78
Waxing.....	293
Welcome Lighting.....	83
What Is a Connected Vehicle.....	360

# Index

---

What Is Automatic High Beam Control.....	84
What Is Cruise Control.....	184
Requirements.....	184
What Is MyKey.....	63
What Is Remote Start.....	124
What Is the Cabin Air Filter.....	133
What Is the Garage Door Opener.....	141
HomeLink Wireless Control System.....	141
Wheel Nuts	
See: Changing a Road Wheel.....	328
Wheels and Tires.....	299
General Information.....	299
Technical Specifications.....	334
Windows and Mirrors.....	86
Windshield Washers.....	79
Windshield Wipers.....	78
Intermittent Wipe.....	78
Speed Dependent Wipers.....	78
Winter Tires	
See: Using Winter Tires.....	323
Wiper Blades	
See: Checking the Wiper Blades.....	274
Wipers and Washers.....	78
Wrecker Towing	
See: Transporting the Vehicle - Mach 1.....	222