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# INTRODUCTION

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### INTRODUCTION

This manual has been prepared with the assistance of service and engineering specialists to acquaint you with the operation and maintenance of your new vehicle. It is supplemented by a Warranty Information Booklet and various customer oriented documents. You are urged to read these publications carefully. Following the instructions and recommendations in this manual will help assure safe and enjoyable operation of your vehicle.

**NOTE:** After you read the manual, it should be stored in the vehicle for convenient reference and remain with the vehicle when sold, so that the new owner will be aware of all safety warnings.

When it comes to service, remember that your dealer knows your vehicle best, has the factory-trained technicians and genuine Mopar® parts, and is interested in your satisfaction.

### WARNING!

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

### HOW TO USE THIS MANUAL

Consult the table of contents to determine which section contains the information you desire.

The detailed index, at the rear of this manual, contains a complete listing of all subjects.

Consult the following table for a description of the symbols that may be used on your vehicle or throughout this owner's manual:



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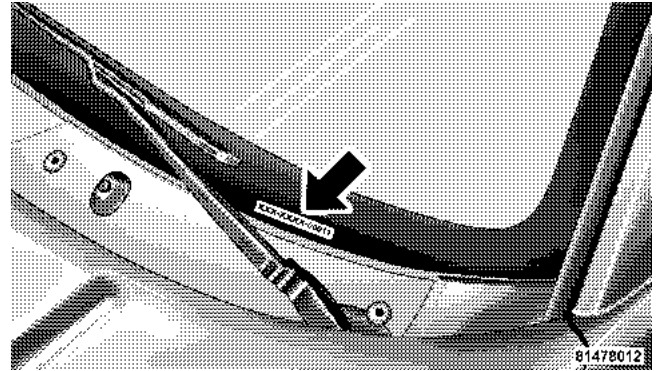
### WARNINGS AND CAUTIONS

This manual contains **WARNINGS** against operating procedures which could result in an accident or bodily injury. It also contains **CAUTIONS** against procedures which could result in damage to your vehicle. If you do not read this entire manual you may miss important information. Observe all Warnings and Cautions.

### VEHICLE IDENTIFICATION NUMBER

The vehicle identification number (VIN) is found on a stamped plate located on the left front corner of the instrument panel pad, visible from outside of the vehicle through the windshield. This number also appears on the Automobile Information Disclosure Label affixed to a window on your vehicle. Save this label for a convenient record of your vehicle identification number and optional equipment.

**NOTE:** It is illegal to remove the VIN plate.



**VEHICLE MODIFICATIONS / ALTERATIONS****WARNING!**

Any modifications or alterations to this vehicle could seriously affect its roadworthiness and safety and may lead to an accident resulting in serious injury or death.





# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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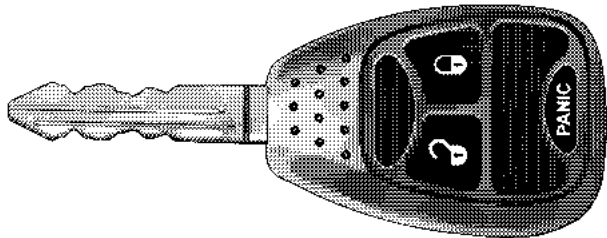
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## A WORD ABOUT YOUR KEYS

The dealer that sold you your new vehicle has the key code numbers for your vehicle locks. These numbers can be used to order duplicate keys from your dealer. Ask your dealer for these numbers and keep them in a safe place.



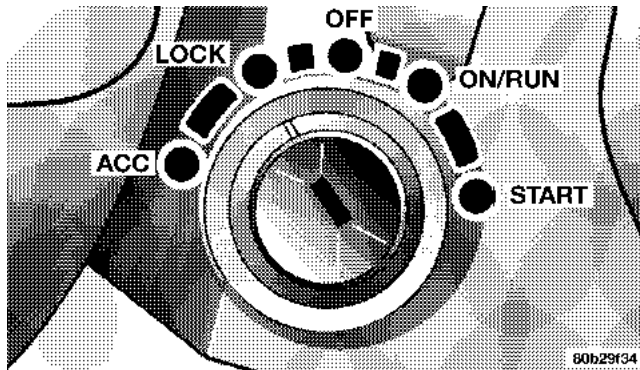
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Ignition Key

## Ignition Key Removal

### Automatic Transmission

Place the shift lever in PARK. Turn the ignition switch to the LOCK position, and remove the key.



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Ignition Switch Positions

**NOTE:** If you try to remove the key before you place the lever in PARK, the key may become trapped temporarily in the ignition cylinder. If this occurs, rotate the key to the right slightly, then remove the key as described. If a malfunction occurs, the system will trap the key in the ignition cylinder to warn you that this safety feature is inoperable. The engine can be started and stopped but the key cannot be removed until you obtain service.

**WARNING!**

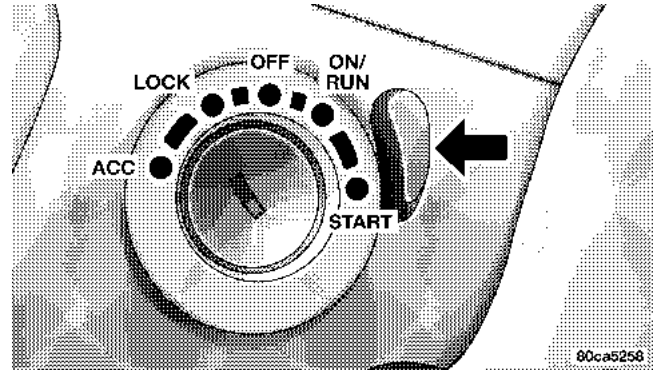
**Never leave children alone in a vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Don't leave the keys in the ignition. A child could operate power windows, other controls, or move the vehicle.**

**CAUTION!**

**An unlocked car is an invitation to thieves. Always remove key from the ignition and lock all doors when leaving the vehicle unattended.**

### Manual Transmission—If Equipped

When the steering wheel is in the LOCK position, the steering and ignition systems are locked to provide antitheft protection for your vehicle. It may be difficult to turn the key from the LOCK position when starting your vehicle. Move the steering wheel left and right while turning the key until it turns easily. To remove the key, depress and hold the release button located between the ignition switch and the instrument panel. Turn the ignition key to LOCK and remove the key.



Ignition Switch Positions

### Locking Doors With The Key

You can insert the key with either side up. To lock the door, turn the key rearward, to unlock the door, turn the key forward. See Section 7 of this manual for door lock lubrication.

**STEERING WHEEL LOCK — IF EQUIPPED**

Your vehicle may be equipped with a passive steering wheel lock. This lock prevents steering the vehicle without the ignition key. If the steering wheel is moved no more than 1/2 turn in either direction and the key is not in the ignition switch, the steering wheel will lock.

**If You Wish To Manually Lock The Steering Wheel:**

With the engine running, turn the steering wheel upside down, turn off the engine and remove the key. Turn the steering wheel slightly in either direction until the lock engages.

**To Release The Steering Wheel Lock:**

Insert the key in the ignition switch and start the engine. If the key is difficult to turn, move the wheel slightly to the right or left to disengage the lock.

**NOTE:** If you turned the wheel to the right to engage the lock, you must turn the wheel slightly to the right to

disengage it. If you turned the wheel to the left to engage the lock, turn the wheel slightly to the left to disengage it.

**Automatic Transmission Ignition Interlock System**

This system prevents the key from being removed unless the shift lever is in PARK. It also prevents shifting out of PARK unless the key is in the ACC, or ON positions, and the brake pedal is depressed.

**SENTRY KEY — IF EQUIPPED**

The Sentry Key Immobilizer System prevents unauthorized vehicle operation by disabling the engine. The system does not need to be armed or activated. Operation is automatic, regardless of whether the vehicle is locked or unlocked.

The system uses ignition keys, which have an embedded electronic chip (transponder), to prevent unauthorized vehicle operation. Therefore, only keys that are programmed to the vehicle can be used to start and operate

## 16 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

the vehicle. The system will shut the engine off in two (2) seconds if someone uses an invalid key to start the engine.

**NOTE:** A key that has not been programmed is considered an invalid key even if it is cut to fit the ignition lock cylinder for that vehicle.

During normal operation, after turning on the ignition switch, the Vehicle Security Alarm Indicator Light will turn on for three (3) seconds for a bulb check. If the light remains on after the bulb check, it indicates that there is a problem with the electronics. In addition, if the light begins to flash after the bulb check, it indicates that someone used an invalid key to start the engine. Either of these conditions will result in the engine being shut off after two (2) seconds.

If the Vehicle Security Alarm Indicator Light turns on during normal vehicle operation (vehicle running for

longer than 10 seconds), it indicates that there is a fault in the electronics. Should this occur, have the vehicle serviced as soon as possible.

### Replacement Keys

**NOTE:** Only keys that have been programmed to the vehicle electronics can be used to start the vehicle. Once a Sentry Key has been programmed to a vehicle, it cannot be programmed to any other vehicle.

At the time of purchase, the original owner is provided with a four digit PIN. This number is required for dealer replacement of keys. Duplication of keys may be performed at an authorized dealer or by using the Customer Key Programming procedure. This procedure consists of programming a blank key to the vehicle electronics. A blank key is one which has never been programmed and needs to be cut.



**NOTE:** When having the Sentry Key System serviced, bring all vehicle keys to the dealer.

### Customer Key Programming

You can program new keys to the system if you have two valid keys by doing the following:

1. Cut the additional Sentry Key Transponder blank(s) to match the ignition switch lock cylinder key code.
2. Insert the first valid key into the ignition switch and turn the ignition switch ON for at least 3 seconds but no longer than 15 seconds. Turn the ignition switch OFF and remove the first key.
3. Insert the second valid key and turn the ignition switch ON within 15 seconds. After ten seconds a chime will sound and the Vehicle Theft Alarm Indicator Light will begin to flash. Turn the ignition switch OFF and remove the second key.

4. Insert a blank Sentry Key into the ignition switch and turn the ignition switch ON within 60 seconds. After 10 seconds a single chime will sound and the Vehicle Theft Alarm Indicator Light will stop flashing, turn on again for 3 seconds, and then turn off.

The new Sentry Key has been programmed. **The Keyless Entry Transmitter will also be programmed during this procedure.** Repeat this procedure to program up to a total of 8 keys. If you do not have a programmed sentry key, contact your dealer for details.

**NOTE:** If a programmed key is lost, see your dealer to have all remaining keys erased from the systems memory. This will prevent the lost key from starting your vehicle. The remaining keys must then be reprogrammed. All vehicle keys must be taken to the dealer at the time of service to be reprogrammed.

### General Information

The Sentry Key system complies with FCC rules part 15 and with RSS-210 of Industry Canada. Operation is subject to the following conditions:

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

### SECURITY ALARM SYSTEM — IF EQUIPPED

This system monitors the vehicle doors and ignition for unauthorized operation. When the alarm is activated, the system provides both audible and visual signals. The horn will sound repeatedly for 3 minutes and the headlights and security light in the instrument cluster will flash for an additional 15 minutes. The engine will not run until the system is disarmed.

### To Set the Alarm:

The alarm will set when you use the power door locks or use the Keyless Entry transmitter to lock the doors. After all the doors are locked and closed, the security light in the instrument cluster will flash rapidly to signal that the system is arming. The security light in the instrument panel cluster will flash rapidly for about 15 seconds to indicate that the alarm is being set. After the alarm is set, the security light will flash at a slower rate to indicate that the system is armed.

**NOTE:** If the security light stays on continuously during vehicle operation, have the system checked by your dealer.

### To Disarm the System:

Use the Remote Keyless Entry transmitter to unlock the doors. If something has triggered the system in your absence, the horn will sound three times when you unlock the doors. Check the vehicle for tampering.

The security system will also disarm, if the vehicle is started with a programmed Sentry Key. If an unprogrammed Sentry Key is used to start a vehicle, the engine will start and run for 2 seconds and then shut down. After six unsuccessful attempts at starting the engine, the system will shut down until the correct key is used. To exit alarming mode, press the transmitter Unlock button or start the vehicle with a programmed Sentry Key.

The security alarm system is designed to protect your vehicle; however, you can create conditions where the system will arm unexpectedly. If you remain in the vehicle and lock the doors with the transmitter, the alarm will sound when you pull the door handle to exit.

**NOTE:** You may accidentally activate the security system (horn sounds and lights flash) by entering the vehicle without using the key fob to unlock the door(s). The security system can be disarmed with the key fob's

UNLOCK button or by inserting a programmed Sentry Key into the ignition and turning the key to the ON position.

## ILLUMINATED ENTRY

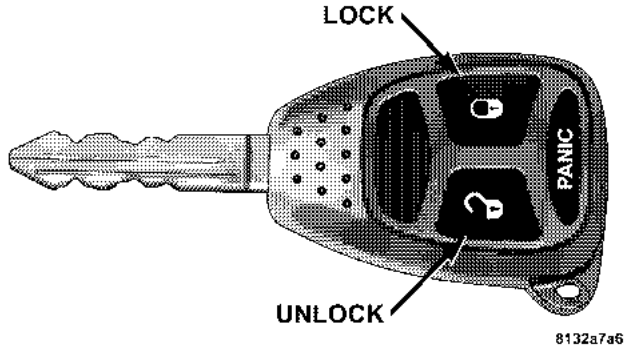
### Vehicles Equipped With Power Door Locks

All interior lights will illuminate in the vehicle when the doors are unlocked using the key fob.

The interior lights will remain on for 30 seconds after the last door is closed, or until all doors are closed and either the ignition is turned to the ON position or a key fob LOCK button is pressed.

There is also a battery saver feature that will turn the interior lights off after 8 minutes if the ignition is OFF and a door is left open or the dimmer control is in the interior lights ON position.

## REMOTE KEYLESS ENTRY



### Remote Keyless Entry Transmitter

This system allows you to lock or unlock the doors or activate the panic alarm from distances a minimum of 66 feet (20 meters) using a hand held radio transmitter. The transmitter need not be pointed at the vehicle to activate the system.

**NOTE:** The line of transmission must not be blocked with metal objects.

### To unlock the doors:

Press and release the UNLOCK button on the transmitter once to unlock only the driver's door or twice to unlock all the doors. When the UNLOCK button is pressed, the illuminated entry will initiate, and the parking lights will flash on twice.

The system can be programmed to unlock all the doors upon the first UNLOCK button press by using the following procedure:

1. Press and hold the LOCK button on a programmed key fob.
2. Continue to hold the LOCK button at least 4 seconds, but not longer than 10 seconds, then press and hold the UNLOCK button. A single chime will sound to indicate that this feature has changed.

3. Release both buttons at the same time.
4. Test the feature while outside of the vehicle, by pressing the LOCK/UNLOCK button on the transmitter.

**NOTE:** Pressing the LOCK button on the transmitter while you are inside the vehicle will activate the Security Alarm. Opening a door with the Security Alarm activated will cause the alarm to sound. Press the UNLOCK button to deactivate the Security Alarm.

5. If the desired programming was not achieved or to reactivate this feature, repeat the above steps.

#### **To lock the doors:**

Press and release the LOCK button on the key fob to lock all doors. If the ignition is OFF, when the doors are locked, the parking lights will flash on once and the horn will chirp once.

#### **Horn Chirp Programming**

The horn chirp feature will be shipped from the assembly plants activated. If desired this feature can be disabled by using the following procedure:

1. Press and hold the LOCK button on the transmitter.
2. After holding the LOCK button for four seconds, also press the PANIC button within 6 seconds. A single chime will sound to indicate that this feature has changed.
3. Release both buttons at the same time.
4. To reactivate this feature, repeat the above steps.
5. Test the horn chirp feature while outside of the vehicle, by pressing the LOCK button on the transmitter with the ignition in the OFF position and the key removed.

## 22 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

**NOTE:** Pressing the LOCK button on the transmitter, while you are inside the vehicle, will activate the Security Alarm. Opening a door with the Security Alarm activated will cause the alarm to sound. Press the UNLOCK button to deactivate the Security Alarm.

6. If the desired programming was not achieved or to reactivate this feature, repeat the above steps.

### Flash Lamps with Lock Programming

1. Press and hold the UNLOCK button on the transmitter.
2. After holding the UNLOCK button for four seconds, also press the LOCK button within 6 seconds. A single chime will sound to indicate that this feature has changed.
3. Release both buttons at the same time.

4. Test the flash lamps with LOCK feature while outside of the vehicle, by pressing the LOCK button on the transmitter with the ignition in the OFF position, and the key removed.

**NOTE:** Pressing the LOCK button on the transmitter, while you are in the vehicle, will activate the Security Alarm. Opening a door with the Security Alarm activated will cause the alarm to sound. Press the UNLOCK button to deactivate the Security Alarm.

5. If the desired programming was not achieved or to reactivate this feature, repeat the above steps.

### Using the Panic Alarm

To activate the Panic mode while the ignition is OFF press and release the PANIC button on the transmitter once. When the Panic mode is activated, the interior lights will illuminate, the headlamps and parking lights will flash, and the horn will sound.

To cancel the Panic mode press and release the PANIC button on the transmitter a second time. Panic mode will automatically cancel after 3 minutes or if the vehicle is started or exceeds 15 mph (24 km/h). During the Panic Mode, the door locks and remote keyless entry systems will function normally. Panic mode will not disarm the security system on vehicles so equipped.

### General Information

This device complies with part 15 of FCC rules and with RS-210 of Industry Canada. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference that may be received including interference that may cause undesired operation.

**NOTE:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If your Remote Lock Control fails to operate from a normal distance, check for these two conditions.

1. Weak batteries in transmitter. The expected life of batteries is five years.
2. Closeness to a radio transmitter such as a radio station tower, airport transmitter, military base, and some mobile or CB radios.

### Programming Additional Transmitters

Vehicles will be shipped from the assembly plants with two transmitters programmed only for that vehicle. A total of eight transmitters can be programmed for your vehicle. Additional transmitters can be programmed to your vehicle through the use of a currently programmed fob.

## 24 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

**NOTE:** When entering program mode using that fob, all other programmed transmitters will be erased and you will have to reprogram them for your vehicle.

Use the following procedure to program additional key fobs if the vehicle is not equipped with Sentry Key:

1. Enter your vehicle and close all doors.
2. Fasten your seat belt (Fastening the seatbelt will cancel any chiming that may confuse you during this programming procedure).
3. Place the key into the ignition.
4. Turn the ignition to the ON position ( **Do not start the engine** ).
5. Press and hold the UNLOCK button on the key fob.
6. After holding the UNLOCK button for four seconds, also press the PANIC button within 6 seconds.
7. When a single chime is heard release both buttons. The chime is an indication that you have successfully entered program mode. All transmitters that are to be programmed must be done so within 60 seconds of when the chime was heard.
8. Using the fob to be programmed, press and hold both the LOCK and UNLOCK buttons, simultaneously for 2 seconds and then release.
9. Press and release the UNLOCK button a single chime will be heard.
10. Repeat steps 8 and 9 to program up to six additional transmitters.
11. Turn the ignition to the OFF position.
12. Your vehicle will remain in program mode up to 60 seconds from when the original chime was heard. After 60 seconds, all programmed transmitters function normally.

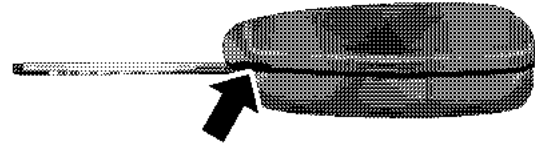


**NOTE:** If you do not have a programmed transmitter, contact your dealer for details.

### Battery Replacement

The recommended replacement battery (2 required) is CR2032.

1. If the key fob is equipped with a screw, remove the screw. With the transmitter buttons facing down, use a flat blade to pry the two halves of the transmitter apart. Make sure not to damage the elastomer seal during removal.



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2. Remove and replace the batteries. Avoid touching the new batteries with your fingers. Skin oils may cause battery deterioration. If you touch a battery, clean it with rubbing alcohol.

3. To assemble the transmitter case, snap the two halves together.

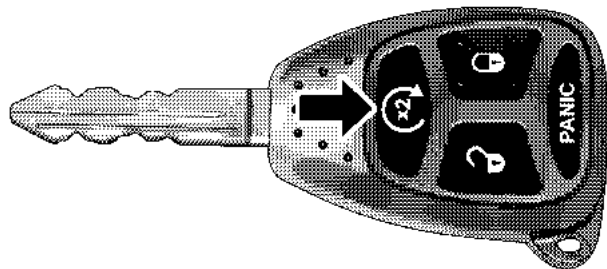
**NOTE:** If the key fob is equipped with a screw, reinstall and tighten the screw until snug.

### REMOTE STARTING SYSTEM — IF EQUIPPED

Your vehicle may be equipped with a remote starting system, which will allow the vehicle to be started from distances up to approximately 300 feet away from the vehicle using the remote keyless entry key fob which is part of your ignition key.

In order to remote start your vehicle, the hood, and all the doors must be closed.

To remote start your vehicle, press the REMOTE START button on the key fob twice within three seconds. To indicate that the vehicle is about to start, the parking lights will flash and the horn will sound briefly.



**Remote Start Transmitter**

Once the vehicle has started, the engine will run for 15 minutes. To cancel remote start, press the REMOTE START button once.

To enter the vehicle while the engine is running during a remote start, you must first unlock the vehicle using the UNLOCK button on the key fob. After the vehicle is

unlocked, you have 60 seconds to enter the vehicle, insert the key in the Ignition and move it to the RUN position, otherwise the engine will cancel remote start and automatically turn off.

Remote start will also cancel if any of the following occur:

- If the engine stalls or RPM exceeds 2500
- Any engine warning lamps come on
- The hood is opened
- The hazard switch is pressed
- The transmission is moved out of park
- The brake pedal is pressed.

The vehicle can be started remotely up to a maximum of two times. The vehicle is also allowed a maximum of one failed start, where the remote start sequence was initiated but cancelled before the engine begins to crank. After

either of these conditions, or if the Vehicle Theft Alarm is alarming, or if the PANIC button was pressed, the vehicle must be reset by inserting a valid key into the ignition and moving it to the RUN position, then back to LOCK.

The parking lamps will remain illuminated to indicate that the vehicle has remote started and the engine is running. The lamps will turn off when the ignition is turned to RUN or the remote start is cancelled.

## DOOR LOCKS

### Manual Door Locks

All the doors can be “manually” locked from the inside by pushing down the door lock plunger, located on the door trim panel. Both front doors may be opened from the inside with the door lock plunger in the down or locked position.

**WARNING!**

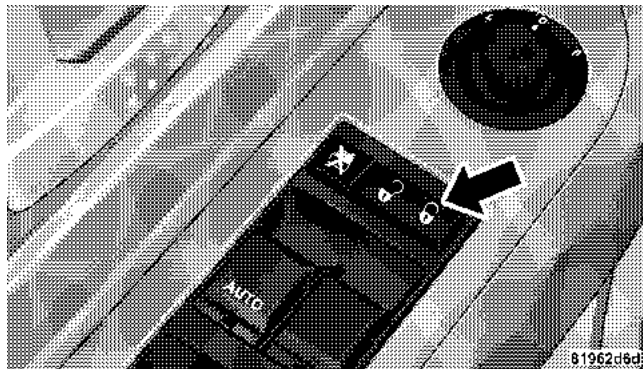
For personal security and safety in the event of an accident, lock the vehicle doors as you drive as well as when you park and leave the vehicle.

**WARNING!**

Never leave children alone in a vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Don't leave the keys in the ignition. A child could operate power windows, other controls, or move the vehicle.

**Power Door Locks**

A power door lock switch is on each front door trim panel. Use this switch to lock or unlock the doors.



**Power Door Lock Switch**

If you press the power door lock switch while the key is in the ignition, and any front door is open, the power

locks will not operate. This prevents you from accidentally locking your keys in the vehicle. Removing the key or closing the door will allow the locks to operate. A chime will sound if the key is in the ignition switch and a door is open, as a reminder to remove the key.

- The driver's door is open while the key is in the ignition.

### Automatic Door Locks

If this feature is enabled, your door locks will lock automatically when the vehicle's speed exceeds 15 mph (24 km/h).

This feature is enabled when your vehicle is shipped from the assembly plant and can be disabled by using the following procedure:

1. Enter your vehicle and close all doors.

2. Fasten your seat belt (fastening the seat belt will cancel any chiming that may confuse you during this programming procedure).

3. Place the key into the ignition.

4. Within 10 seconds, cycle the key from the OFF position to the ON position a minimum of four times; ending in the ON position (**do not start the engine**)

5. Within 30 seconds, press the driver's door lock switch in the LOCK direction.

6. A single chime will be heard to indicate the feature has been disabled.

7. To re-activate this feature, repeat the above steps.

8. If a chime is not heard, program mode was canceled before the feature could be disabled. If necessary, repeat the above procedure.

### Auto Unlock Feature

This feature unlocks all the doors of the vehicle when **any door is opened**. The following must be met:

- The doors of the vehicle must be locked automatically by the Automatic Door Lock feature.
- The vehicle is in P (Park) and the ignition switch is in **any key position**.

This feature will not operate if any manual operation of a door lock switch has occurred

**NOTE:** This customer programmable feature is enabled when your vehicle is shipped from the assembly plant.

### Auto Unlock Feature Programming

Customer Programming sequence to disable or enable:

1. Enter your vehicle and close all doors.

2. Fasten your seat belt (fastening the seat belt will cancel any chiming that may be confusing during this programming procedure).

3. Insert the key into the ignition.

4. Within 15 seconds, cycle the key from the OFF position to the ON position a minimum of four times; ending in the ON position (**do not start the engine**)

5. Within 30 seconds, press the driver's door lock switch in the UNLOCK direction.

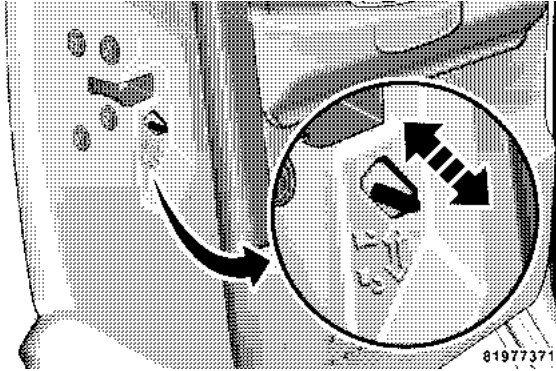
6. A single chime will sound to indicate the feature has been changed.

7. To reactivate the feature, repeat the above steps.

8. If a chime is not heard, program mode was canceled before the feature could be changed. If necessary repeat the above procedure.

### Child Protection Door Lock

To provide a safer environment for children riding in the rear seat, the rear doors of your vehicle have the child-protection door lock system.



Child Lock Lever

To use the system, open each rear door, slide the lever UP to engage the locks and DOWN to disengage the child-protection locks. When the system on a door is engaged, that door can only be opened by using the outside door handle even if the inside door lock is in the unlocked position.

#### WARNING!

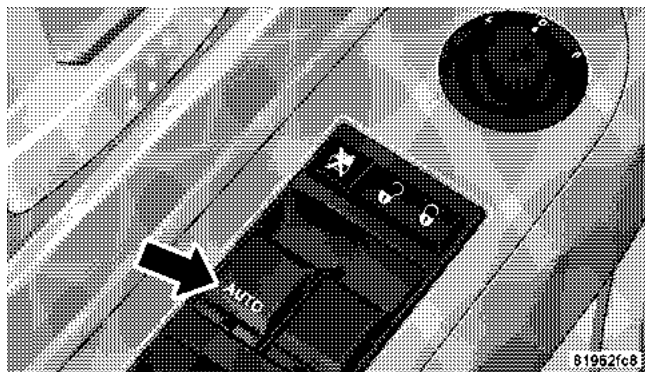
Avoid trapping anyone in a vehicle in a collision. Remember that the rear doors can only be opened from the outside when the child protection locks are engaged.

**NOTE:** After setting the child protection door lock system, always test the door from the inside to make certain it is in the desired position.

**NOTE:** For emergency exit with the system engaged, move the door lock switch to the UNLOCK position, roll down the window and open the door with the outside door handle.

## WINDOWS

### Power Windows



Power Window Switch

The control on the left front door has up-down switches that give you finger tip control of all four power windows. There is a single opening and closing switch on the passenger doors for passenger window control. The windows will operate when the ignition switch is turned to the ON or ACC (Accessory) position and for ten minutes after the ignition is turned off or the driver's door is opened.

### WARNING!

Never leave children alone in a vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Don't leave the keys in the ignition. A child could operate power windows, other controls, or move the vehicle.

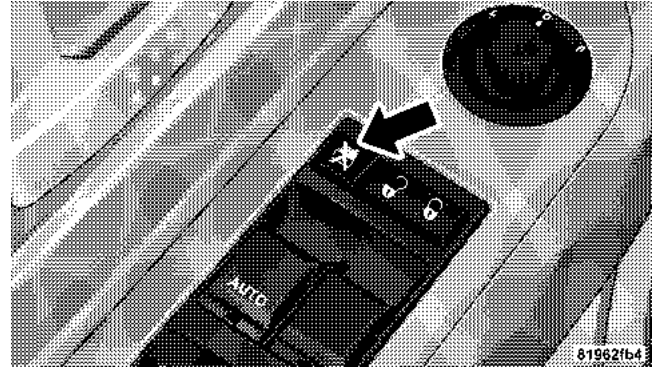


### Auto Down (Driver's Side Only)

The driver's window switch has an Auto Down feature. Push the window switch past the first detent, release, and the window will go down automatically. To cancel the Auto Down movement, operate the switch in either the up or down direction and release the switch.

### Window Lockout Switch

The window lockout switch on the driver's door allows you to disable the window control on the other doors. To disable the window controls on the other doors, press the window lock button. To enable the window controls, press the window control button again.



Power Window Lock Out Switch

### WIND BUFFETING

Wind buffeting can be described as the perception of pressure on the ears or a helicopter type sound in the ears. Your vehicle may exhibit wind buffeting with the windows down or partially open. This is a normal occurrence and can be minimized. If the buffeting occurs

with the rear windows open, open the front and rear windows together to minimize the buffeting.

### OCCUPANT RESTRAINTS

Some of the most important safety features in your vehicle are the restraint systems. These include the front and rear seat belts for the driver and all passengers, knee bolsters, front airbags for both the driver and front passenger, and if equipped left and right side curtain airbags for the driver and passengers seated next to a window. If you will be carrying children too small for adult-size seat belts, your seat belts or the LATCH feature (refer to the Child Restraint section in this manual), can be used to hold infant and child restraint systems.

Please pay close attention to the information in this section. It tells you how to use your restraint system properly to keep you and your passengers as safe as possible.

### WARNING!

**In a collision, you and your passengers can suffer much greater injuries if you are not properly buckled up. You can strike the interior of your vehicle or other passengers, or you can be thrown out of the vehicle. Always be sure you and others in your vehicle are buckled up properly.**

Buckle up even though you are an excellent driver, even on short trips. Someone on the road may be a poor driver and cause a collision that includes you. This can happen far away from home or on your own street.

Research has shown that seat belts save lives, and that they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Seat belts reduce the possibility

of ejection and the risk of injury caused by striking the inside of the vehicle. **Everyone** in a motor vehicle should be belted at all times.

### **Lap/Shoulder Belts**

All seating positions except the front center seating position (with full bench seat) have combination lap/shoulder belts. The belt webbing retractor is designed to lock during very sudden stops or collisions. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

### **WARNING!**

**It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, 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 seat belts.**

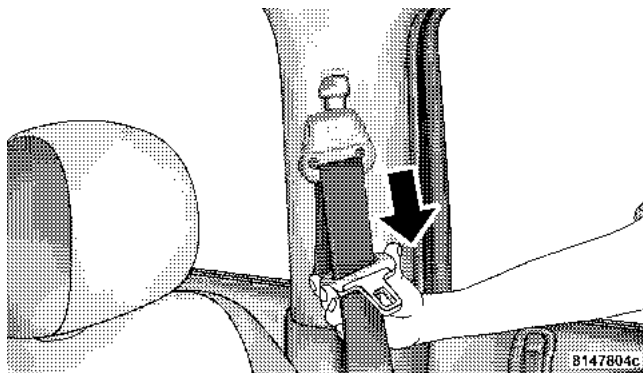
**Be sure everyone in your vehicle is in a seat and using a seat belt properly.**

**WARNING!**

- Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best. Wearing your belt in the wrong place could make your injuries in a collision much worse. You might suffer internal injuries, or you could even slide out of part of the belt. Follow these instructions to wear your seat belt safely and to keep your passengers safe, too.
- Two people should never be belted into a single seat belt. People belted together can crash into one another in an accident, hurting one another badly. Never use a lap/shoulder belt or a lap belt for more than one person, no matter what their size.

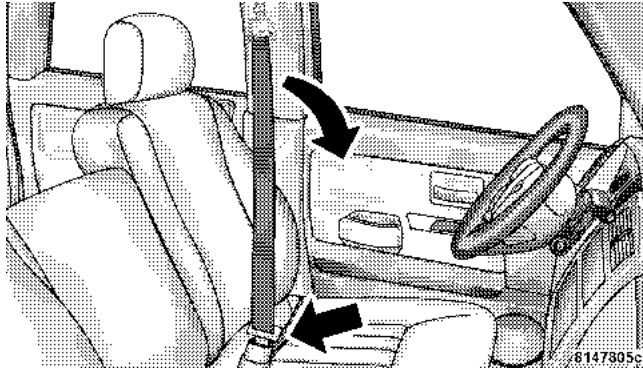
**Lap/Shoulder Belt Operating Instructions**

1. Enter the vehicle and close the door. Sit back and adjust the seat.



2. The seat belt latch plate is above the back of the front seat, next to your arm in the rear seat. Grasp the latch

plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to allow the belt to go around your lap.

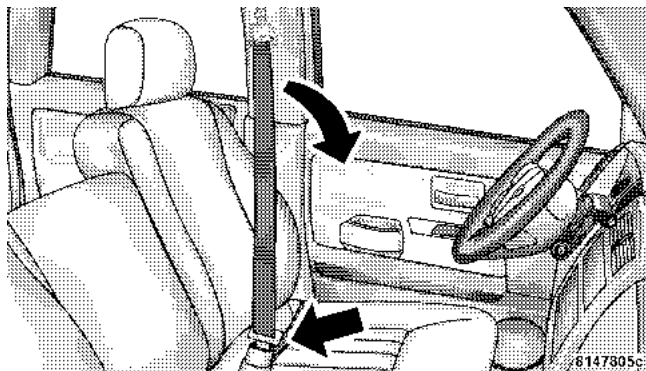


3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a "click."

## WARNING!

- A belt buckled into the wrong buckle will not protect you properly. The lap portion could ride too high on your body, possibly causing internal injuries. Always buckle your belt into the buckle nearest you.
- A belt that is too loose will not protect you as well. In a sudden stop you could move too far forward, increasing the possibility of injury. Wear your seat belt snugly.
- A belt that is worn under your arm is very dangerous. Your body could strike the inside surfaces of the vehicle in a collision, increasing head and neck injury. And a belt worn under the arm can cause internal injuries. Ribs aren't as strong as shoulder bones. Wear the belt over your shoulder so that your strongest bones will take the force in a collision.
- A shoulder belt placed behind will not protect you from injury during a collision. You are more likely to hit your head in a collision if you do not wear your shoulder belt. The lap and shoulder belt are meant to be used together.

4. Position the lap belt across your thighs, below your abdomen. To remove slack in the lap belt portion, pull up on the shoulder belt. To loosen the lap belt if it is too tight, tilt the latch plate and pull on the lap belt. A snug belt reduces the risk of sliding under the belt in a collision.



### WARNING!

- A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.
- A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.

5. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.

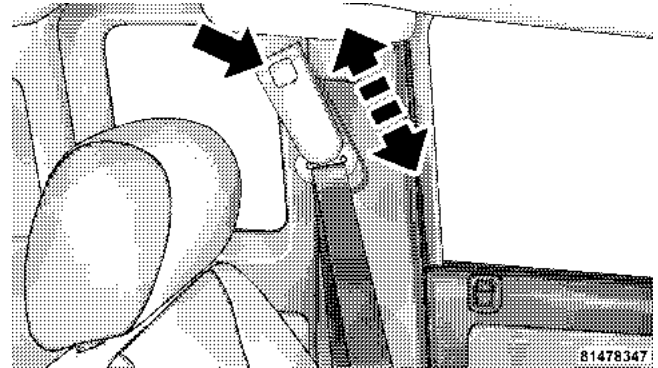
6. To release the belt, push the red button on the buckle. The belt will automatically retract to its stowed position. If necessary, slide the latch plate down the webbing to allow the belt to retract fully.

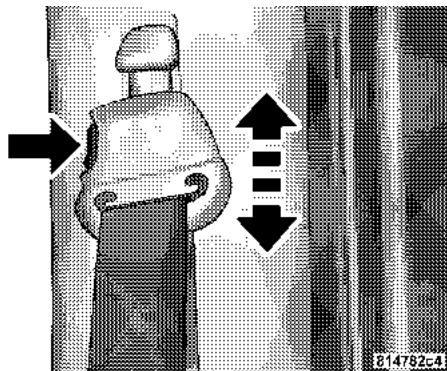
### WARNING!

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after a collision if they have been damaged (bent retractor, torn webbing, etc.).

### Adjustable Upper Shoulder Belt Anchorage

In the front row outboard seats, the shoulder belt can be adjusted upward or downward to help position the belt away from your neck. Push in on the anchorage release button to release the anchorage, and then move it up or down to the position that serves you best.





As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in the desired position.

The adjuster has an easy up (EZ Up) feature, which will allow it to be moved up without engaging the button.

### **Automatic Locking Mode – If Equipped**

To convert from the normal emergency locking mode to the automatic locking mode, grasp the shoulder belt portion and pull all of the webbing out of the retractor. Allow some of the webbing to retract into the retractor, as the belt retracts you will hear a clicking sound to indicate the seat belt is now in the automatic locking mode. Once the automatic locking mode has been activated, you will not be able pull the webbing back out of the retractor. To disengage the automatic locking mode, simply allow the seat belt to retract fully into the retractor to return the seat belt to the normal emergency locking mode.

### **Center Lap Belts**

The center seat position on the front seat bench has a lap belt only. To fasten the lap belt, slide the latch plate into the buckle until you hear a "click." To lengthen the lap belt, tilt the latch plate and pull. To remove slack, pull the



loose end of the webbing. Wear the lap belt snug against the hips. Sit back and erect in the seat, then adjust the belt as tightly as is comfortable.

### **Seat Belt Pretensioners**

The seat belts for front outboard seating positions are equipped with pretensioning devices that are designed to remove any slack from the seat belt system in the event of a collision. These devices improve the performance of the seat belt by assuring that the belt is tight about the occupant early in a collision. Pretensioners work for all size occupants, including those in child restraints.

**NOTE:** These devices are not a substitute for proper seat belt placement by the occupant. The seat belt still must be worn snugly and positioned properly.

The pretensioners are triggered by the Occupant Restraint Controller (ORC). Like the airbags, the pretensioners are single use items. After a collision that is severe enough to deploy the airbags and pretensioners, both must be replaced.

### **Enhanced Driver Seat Belt Reminder System (BeltAlert)**

If the driver's seat belt has not been buckled within 60 seconds of starting the vehicle and if the vehicle speed is greater than 5 mph (8 km/h), the Enhanced Warning System (BeltAlert) will alert the driver to buckle their seat belt. The driver should also instruct all other occupants to buckle their seat belts. Once the warning is triggered, the Enhanced Warning System (BeltAlert) will continue to chime and flash the Seat Belt Warning Light for 96 seconds or until the driver's seat belt is buckled. The Enhanced Warning System (BeltAlert) will be reactivated

## 42 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

if the driver's seat belt is unbuckled for more than 10 seconds and the vehicle speed is greater than 5 mph (8 km/h).

The Enhanced Warning System (BeltAlert) can be enabled or disabled by your authorized dealer or by following these steps:

**NOTE:** The following steps must occur within the first 60 seconds of the ignition switch being turned to the ON or START position. DaimlerChrysler does not recommend deactivating the Enhanced Warning System (BeltAlert).

1. Turn the ignition switch to the OFF position and buckle the driver's seat belt.
2. Turn the ignition switch to the ON position and wait for the Seat Belt Warning Light to turn off.

3. Within 60 seconds of starting the vehicle, unbuckle and then re-buckle the driver's seat belt at least three times within 10 seconds, ending with the seat belt buckled.

4. Turn off the engine. A single chime will sound to signify that you have successfully completed the programming.

The Enhanced Warning System (BeltAlert) can be reactivated by repeating this procedure.

**NOTE:** Although the Enhanced Warning System (BeltAlert) has been deactivated, the Seat Belt Warning Light will continue to illuminate while the driver's seat belt remains unbuckled.

### Seat Belts and Pregnant Women

We recommend that pregnant women use seat belts throughout their pregnancies. Keeping the mother safe is the best way to keep the baby safe.

Pregnant women should wear the lap part of the belt across the thighs and as snug against the hips as possible. Keep the belt low so that it does not come across the abdomen. That way the strong bones of the hips will take the force if there is a collision.

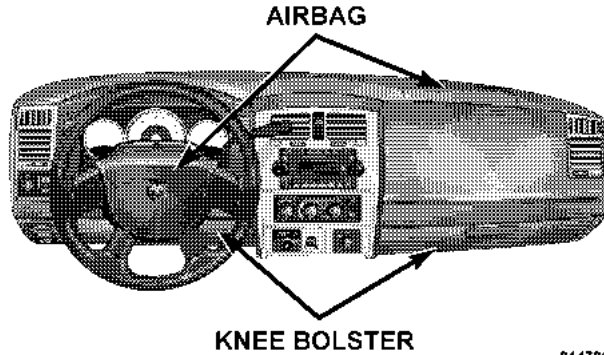
### Seat Belt Extender

If a seat belt is too short, even when fully extended, your dealer can provide you with a seat belt extender. This extender should be used only if the existing belt is not long enough. When it is not required, remove the extender and store it.

### WARNING!

Using a seat belt extender when not needed can increase the risk of injury in a collision. Only use the seat belt extender when the lap belt is not long enough when it is worn low and snug, and in the recommended seating positions. Remove and store the extender when not needed.

### Driver And Right Front Passenger Supplemental Restraint System (SRS) – Airbags



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This vehicle has airbags for both the driver and right front passenger as a supplement to the seat belt restraint systems. The driver's front airbag is mounted in the steering wheel. The passenger front airbag is mounted in

the instrument panel, above the glove compartment. The words SRS/AIRBAG are embossed on the airbag covers.

**NOTE:** The front airbags are certified to the Federal regulations that allow less forceful deployment.

The front airbags have a multistage inflator design. This may allow the airbag to have different rates of inflation that are based on collision severity and occupant size.

This vehicle may also be equipped with window bags to protect the driver, front, and rear passengers sitting next to a window. If the vehicle is equipped with window bags, they are located above the side windows. Their covers are also labeled SRS AIRBAG.

**NOTE:** Airbag covers may not be obvious in the interior trim; but they will open to allow airbag deployment.

**WARNING!**

- Do not put anything on or around the front airbag covers or attempt to manually open them. You may damage the airbags and you could be injured because the airbags are no longer functional. These protective covers for the airbag cushions are designed to open only when the airbags are inflating.
- If your vehicle is equipped with window bags, do not stack luggage or other cargo up high enough to block the location of the window bag. The area where the window bag is located should remain free from any obstructions.
- If your vehicle is equipped with window bags, do not have any accessory items installed which will alter the roof, including adding a sunroof to your vehicle. Do not add roof racks that require permanent attachments (bolts or screws) for installation on the vehicle roof. Do not drill into the roof of the vehicle for any reason.

**NOTE:** Do not use a clothing bar mounted to the coat hooks in this vehicle. A clothing bar will impede the proper performance of the window bags.

Along with the seat belts, front airbags work with the instrument panel knee bolsters to provide improved protection for the driver and front passenger. Window bags also work with seat belts to improve occupant protection.

The seat belts are designed to protect you in many types of collisions. The front airbags deploy in moderate to severe frontal collisions.

If your vehicle is so equipped, the window bag on the crash side of the vehicle is triggered in moderate to severe side collisions. But even in collisions where the airbags work, you need the seat belts to keep you in the right position for the airbags to protect you properly.

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Here are some simple steps you can follow to minimize the risk of harm from a deploying airbag.

1. Children 12 years and under should always ride buckled up in a rear seat in an appropriate child restraint.

Infants in rear-facing child restraints should **NEVER** ride in the front seat of a vehicle with a passenger front airbag. An airbag deployment can cause severe injury or death to infants in that position.

If a child from 1 to 12 years old must ride in the front passenger seat because the vehicle is crowded, move the seat as far back as possible, and use the proper child restraint. See "Child Restraint" in this section.

You should read the instructions provided with your child restraint to make sure that you are using it properly.

2. All occupants should use their lap and shoulder belts properly.

3. The driver and front passenger seats should be moved back as far as practical to allow the airbag room to inflate.

4. If your vehicle has window airbags, do not lean against the door or window, airbags will inflate forcefully into the space between you and the door.

5. If the airbag system in this vehicle needs to be modified to accommodate a disabled person, contact the Customer Center. Phone numbers are provided in the "If You Need Customer Assistance" section later in this owner's manual.

**WARNING!**

- Relying on the airbags alone could lead to more severe injuries in a collision. The airbags work with your seat belt to restrain you properly. In some collisions the airbags won't deploy at all. Always wear your seat belts even though you have airbags.
- Being too close to the steering wheel or instrument panel during airbag deployment could cause serious injury. Airbags need room to inflate. Sit back, comfortably extending your arms to reach the steering wheel or instrument panel.
- If the vehicle has window bags, they also need room to inflate. Do not lean against the door or window. Sit upright in the center of the seat.

**Air Bag System Components**

The airbag system consists of the following:

- Occupant Restraint Controller
- Side Remote Acceleration Sensors – If Equipped
- Airbag Warning Light
- Driver Airbag
- Passenger Airbag
- Window Bags above Side Windows – If Equipped
- Steering Wheel and Column
- Instrument Panel
- Interconnecting Wiring
- Knee Impact Bolsters
- Front Acceleration Sensors

## 48 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

- Driver and Front Passenger Seat Belt Pretensioners
- Passenger Airbag Disable (PAD) Indicator Light (Extended Cab Vehicles Only)
- Passenger Side frontal Airbag ON/OFF Switch (Extended Cab Vehicles Only).

### How the Airbag System Works

- The **Occupant Restraint Controller (ORC)** determines if a frontal collision is severe enough to require the airbags to inflate. The front airbag inflators are designed to provide different rates of airbag inflation from direction provided by the ORC. The ORC may also modify the rate of inflation based on the occupant size provided by the Occupant Classification Module. The ORC will not detect roll over.

The ORC also monitors the readiness of the electronic parts of the system whenever the ignition switch is in the START or RUN positions. These include all of the

items listed above except the steering wheel and column, and knee bolsters. If the key is in the OFF position, in the ACC position, or not in the ignition, the airbags are not on and will not inflate.

During a moderate-to-severe rear impact the ORC may deploy the seat belt pretensioners alone.



Also, the ORC turns on the AIRBAG warning light and PAD indicator light in the instrument panel for 6 to 8 seconds for a self-check when the ignition is first turned on. After the self-check, the AIRBAG warning light will turn off. If the ORC detects a malfunction in any part of the system, it turns on the AIRBAG warning light either momentarily or continuously. A single chime will sound if the light comes on again after initial start up.



**WARNING!**

Ignoring the AIRBAG warning light in your instrument panel could mean you won't have the airbags to protect you in a collision. If the light does not come on, stays on after you start the vehicle, or if it comes on as you drive, have the airbag system checked right away.

**NOTE:** Children 12 years and under should always ride buckled up in a rear seat in an appropriate child restraint.



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The **Passenger Airbag Disable (PAD) Indicator Light** (an amber light located in the center of the instrument panel) tells the driver and front passenger when the front passenger airbag is turned off.

If the passenger frontal air bag is turned off by using the manual on/off switch (on vehicles so equipped), the PAD Indicator lamp illuminates the passenger frontal airbag

symbol and the word "OFF" to show that the passenger airbag will not inflate during a collision requiring airbags.

- The **Driver and Passenger Airbag/Inflator Units** are located in the center of the steering wheel and the right side of the instrument panel. When the ORC detects a collision requiring the airbags, it signals the inflator units. A large quantity of nontoxic gas is generated to inflate the front airbags. Different airbag inflation rates may be possible based on collision severity and occupant size. The steering wheel hub trim cover and the upper right side of the instrument panel separate and fold out of the way as the bags inflate to their full size. The bags fully inflate in about 50 - 70 milliseconds. This is about half of the time it takes to blink your eyes. The bags then quickly deflate while helping to restrain the driver and front passenger. The driver's front airbag gas is vented through vent holes in the sides of the airbag. The passenger's front airbag gas is vented through vent holes in the sides of the airbag. In this way the airbags do not interfere with your control of the vehicle.
- The **Passenger Airbag Disabled (PAD) Indicator Light** indicates to the driver and passenger when the airbag is turned OFF. In the presence of a properly seated occupant, when the PAD indicator light is illuminated, the airbag is OFF.
- The **Side Impact SRS Window Bags** are designed to activate only in certain side collisions. When the ORC (with side impact option) detects a collision requiring the window bags to inflate, it signals the inflators on the crash side of the vehicle. A quantity of nontoxic gas is generated to inflate the window bag. The inflating window bag pushes the outside edge of the headliner out of the way and covers the window. The airbag forcefully inflates in about one quarter of the time it takes to blink your eye. Make sure you are seated and

belted properly and do not position items in the area where the window bag inflates. This especially applies to children. The window bag is only about 3-1/2 inches (9 cm) thick when it is inflated.

- The **Knee Impact Bolsters** help protect the knees of the driver and the front passenger, and position everyone for the best interaction with the front airbag.
- Do not modify the front passenger seat assembly or components in any way.
- Do not modify the front seat center console or center position seat in any way.
- At no time should any supplemental restraint system (SRS) component or SRS related component or fastener be modified or replaced with any part except those which are approved by DaimlerChrysler/Mopar®.

### WARNING!

**Unapproved modifications or service procedures to the front passenger seat assembly, its related components, or seat cover may inadvertently change the airbag deployment in case of a frontal crash. This could result in death or serious injury to the front seat passenger if the vehicle is involved in an accident. A modified vehicle may not comply with required Federal Motor Vehicle Safety Standards (FMVSS).**

### If A Deployment Occurs

The airbag system is designed to deploy the airbags when the impact sensors detect a moderate-to-severe frontal collision, to help restrain the driver and front passenger, and then immediately deflate.

**NOTE:** A frontal collision that is not severe enough to need airbag protection will not activate the system. This does not mean something is wrong with the airbag system.

If you do have a collision which deploys the airbags, any or all of the following may occur:

- The nylon airbag material may sometimes cause abrasions and/or skin reddening to the driver and front passenger as the airbags deploy and unfold. The abrasions are similar to friction rope burns or those you might get sliding along a carpet or gymnasium floor. They are not caused by contact with chemicals. They are not permanent and normally heal quickly. However, if you haven't healed significantly within a

few days, or if you have any blistering, see your doctor immediately. As the airbags deflate you may see some smoke-like particles. The particles are a normal by-product of the process that generates the nontoxic gas used for airbag inflation. These airborne particles may irritate the skin, eyes, nose, or throat. If you have skin or eye irritation, rinse the area with cool water. For nose or throat irritation, move to fresh air. If the irritation continues, see your doctor. If these particles settle on your clothing, follow the garment manufacturer's instructions for cleaning.

- It is not advisable to drive your vehicle after the airbags have deployed. If you are involved in another collision, the airbags will not be in place to protect you.

**WARNING!**

Deployed airbags and seat belt pretensioners cannot protect you in another collision. Have the airbags, and both front seat belt retractor assemblies (w/ pretensioners), replaced by an authorized dealer as soon as possible.

**Maintaining Your Airbag System****WARNING!**

- Modifications to any part of the airbag system could cause it to fail when you need it. You could be injured if the airbag system is not there to protect you. Do not modify the components or wiring, including adding any kind of badges or stickers to the steering wheel hub trim cover or the upper right side of the instrument panel. Do not modify the front bumper, vehicle body structure, or add aftermarket side steps or running boards.
- Do not attempt to modify any part of your advanced airbag system. The airbag may inflate accidentally or may not function properly if modifications are made. Take your vehicle to an authorized dealer for any advanced airbag system service. If your seat (including your trim cover and cushion) needs to be serviced in any way (including removal or loosening/tightening of seat attachment bolts), take the vehicle to your authorized dealer. Only manufacturer approved seat accessories may be used. If it is necessary to modify an advanced airbag system for persons with disabilities, contact your authorized dealer.
- You need proper knee impact protection in a collision. Do not mount or locate any aftermarket equipment on or behind the knee bolsters.
- It is dangerous to try to repair any part of the airbag system yourself. Be sure to tell anyone who works on your vehicle that it has an airbag system.

### Enhanced Accident Response System

If the airbags deploy after an impact and the electrical system remains functional, vehicles equipped with power door locks will unlock automatically. In addition, approximately 5 seconds after the vehicle has stopped moving, the interior lights will light until the ignition switch is turned off.

### Airbag Light



You will want to have the airbags ready to inflate for your protection in an impact. While the airbag system is designed to be maintenance free, if any of the following occurs, have an authorized dealer service the system promptly:

- The airbag light does not come on or flickers during the 6 to 8 seconds when the ignition switch is first turned on.
- The light remains on or flickers after the 6 to 8 second interval.

- The light flickers or comes on and remains on while driving.

**NOTE:** If the speedometer, tachometer or any engine related gauges are not working, the airbag control module may also be disabled. The airbags may not be ready to inflate for your protection. Promptly check the fuse block for blown fuses. Refer to the label located on the inside of the fuse block cover for the proper airbag fuses. See your dealer if the fuse is good.

### Passenger Airbag On/Off Switch – If Equipped

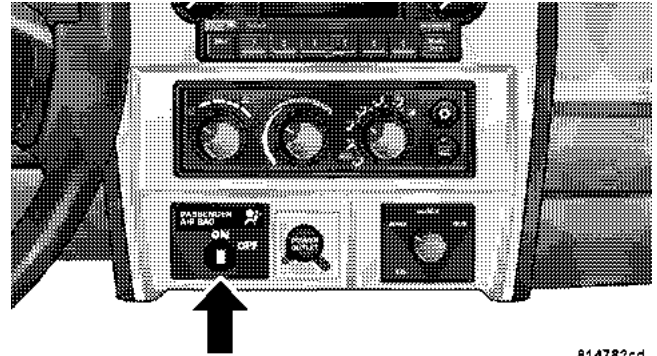
The passenger front airbag is to be turned off only if the passenger:

- is an infant (less than 1 year old) who must ride in the front seat because there is no rear seat, because the rear seat is too small for a rear-facing infant restraint or because the infant has a medical condition which makes it necessary for the driver to be able to see the infant,

- is a child, age 1 to 12 who must ride in the front seat because there is no rear seat, because there is no rear seat position available, or because the child has a medical condition which makes it necessary for the driver to be able to see the child,
- has a medical condition which makes passenger airbag inflation (deployment) a greater risk for the passenger than the risk of hitting the dashboard (instrument panel) or windshield in a crash.

### WARNING!

Whenever an airbag is turned off, even a lap/shoulder belted passenger may hit their head, neck, or chest on the dashboard (instrument panel) or windshield in a crash. This may result in serious injury or death.



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**NOTE:** The Passenger Airbag On/Off Switch is not available in the Quad Cab.

### To Shut Off the Passenger Frontal Airbag

Place the ignition key in the Passenger Airbag On/Off Switch, push the key in and turn clockwise, and remove

the key from the switch. This will shut off the passenger frontal airbag. The passenger frontal airbag symbol and the word "OFF" on the passenger airbag disable (PAD) lamp will illuminate when the ignition switch is turned to the ON position.

### **To Turn On the Passenger Frontal Airbag**

Place the ignition key in the Passenger Airbag On/Off Switch, push the key in and turn counterclockwise, and remove the key from the switch. This will turn On the passenger frontal airbag. The passenger airbag disable (PAD) lamp will now be Off when the ignition switch is turned to the ON position.

### **Event Data Recorder (EDR)**

In the event of an airbag deployment, your vehicle is designed to record up to 2-seconds of specific vehicle data parameters (see list below) in an event data recorder prior to the moment of airbag deployment. Please note that such data are ONLY recorded if an airbag deploys,

and are otherwise unavailable. In conjunction with other data gathered during a complete accident investigation, the electronic data may be used by DaimlerChrysler Corporation and others to learn more about the possible causes of crashes and associated injuries in order to assess and improve vehicle performance. In addition to crash investigations initiated by DaimlerChrysler Corporation, such investigations may be requested by customers, insurance carriers, government officials, and professional crash researchers, such as those associated with universities, and with hospital and insurance organizations.

In the event that an investigation is undertaken by DaimlerChrysler Corporation (regardless of initiative), the company or its designated representative will first obtain permission of the appropriate custodial entity for the vehicle (usually the vehicle owner or lessee) before accessing the electronic data stored, unless ordered to download data by a court with legal jurisdiction (i.e.,



pursuant to a warrant). A copy of the data will be provided to the custodial entity upon request. General data that does not identify particular vehicles or crashes may be released for incorporation in aggregate crash databases, such as those maintained by the US government and various states. Data of a potentially sensitive nature, such as would identify a particular driver, vehicle, or crash, will be treated confidentially. Confidential data will not be disclosed by DaimlerChrysler Corporation to any third party except when:

1. Used for research purposes, such as to match data with a particular crash record in an aggregate database, provided confidentiality of personal data is thereafter preserved
2. Used in defense of litigation involving a DaimlerChrysler Corporation product
3. Requested by police under a legal warrant
4. Otherwise required by law

Data Parameters that May Be Recorded:

- Diagnostic trouble code(s) and warning lamp status for electronically-controlled safety systems, including the airbag system
- Airbag disable lamp status – If Equipped
- "Time" of airbag deployment (in terms of ignition cycles and vehicle mileage)
- Airbag deployment level – If Equipped
- Seatbelt status
- Brake status (service and parking brakes)
- Accelerator status (including vehicle speed)
- Engine control status (including engine speed)
- Cruise control status
- Traction/stability control status

### Child Restraint

Everyone in your vehicle needs to be buckled up all the time - babies and children, too. Every state in the United States and all Canadian provinces require that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it. Children 12 years and under should ride properly buckled up in a rear seat, if available. According to crash statistics, children are safer when properly restrained in the rear seats rather than in the front.

There are different sizes and types of restraints for children from newborn size to the child almost large enough for an adult seat belt. Always check the child seat owner's manual to ensure you have the right seat for your child. Use the restraint that is correct for your child:

### Infants and Small Children

- Safety experts recommend that children ride rearward-facing in the vehicle until they are at least one year old and weigh at least 20 lbs (9 kg). Two types of child restraints can be used rearward facing: infant carriers and "convertible" child seats.
- The infant carrier is only used rearward-facing in the vehicle. It is recommended for children who weigh up to about 20 lbs (9 kg). "Convertible" child seats can be used either rearward-facing or forward-facing in the vehicle. Convertible child seats often have a higher weight limit in the rearward-facing direction than infant carriers do, so they can be used rearward-facing by children who weigh more than 20 lbs (9 kg) but are less than one year old. Both types of child restraints are held in the vehicle by the seatbelt or the LATCH child restraint anchorage system. (See the LATCH - Child Seat Anchorage System section.)

- Rearward-facing child seats must **NEVER** be used in the front seat of a vehicle with a front passenger airbag that does not have a switch to turn the airbag Off. An airbag deployment could cause severe injury or death to infants in this position.

### Older Children and Child Restraints

- Children who weigh more than 20 lbs (9 kg) and who are older than one year can ride forward-facing in the vehicle. Forward-facing child seats and convertible child seats used in the forward-facing direction are for children who weigh 20 to 40 lbs (9 to 18 kg), and are older than one year old. These child seats are also held in the vehicle by the seatbelt or the LATCH child restraint anchorage system. (See the LATCH - Child Seat Anchorage System section.)
- The belt-positioning booster seat is for children weighing more than 40 lbs (18 kg), but who are still too small to fit the vehicle's seat belts properly. If the child

cannot sit with knees bent over the seat cushion while the child's back is against the seatback, they need a belt-positioning booster seat. The child and booster seat are held in the vehicle by the lap/shoulder belt.

### Children Too Large for Booster Seats

- Children who are large enough to wear the shoulder belt comfortably, and whose legs are long enough to bend over the front of the seat when their back is against the seat back should use the lap/shoulder belt in a rear seat.
- Make sure that the child is upright in the seat.
- The lap portion should be low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.

- If the shoulder belt contacts the face or neck, move the child closer to the center of the vehicle. Never allow a child to put the shoulder belt under an arm.

For additional information, refer to [www.seatcheck.org](http://www.seatcheck.org).

**WARNING!**

- **Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.**
- **A rearward facing infant restraint should only be used in a rear seat of a vehicle that does not have an airbag off switch. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal to the infant.**

Here are some tips for getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets all applicable Safety Standards. The manufacturer recommends that you try a child restraint in the vehicle seats where you will use it before you buy it.
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for weight and height limits.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.
- The Club Cab first and Club/Quad Cab second row outside seating positions have cinching latch plates. These are designed to keep the lap portion tight around the child restraint so that it is not necessary to

use a locking clip. If the seat belt has a cinching latch plate, pulling up on the shoulder portion of the lap/shoulder belt will tighten the belt. The cinching latch plate will keep the belt tight, however, any seat belt system will loosen with time, so check the belt occasionally and pull it tight if necessary.

- Buckle the child into the restraint exactly as the manufacturer's instructions tell you.
- When your child restraint is not in use, secure it in the vehicle with the seat belt or remove it from the vehicle. Do not leave it loose in the vehicle. In a sudden stop or collision, it could strike the occupants or seat backs and cause serious personal injury.

### **LATCH - Child Seat Anchorage System (Lower Anchors and Tether for CHildren)**

Each vehicle is equipped with the child restraint anchorage system called LATCH, which stands for Lower Anchors and Tethers for CHildren. The LATCH system

provides for the installation of the child restraint without using the vehicle's seat belts, instead securing the child restraint using lower anchorages and upper tether straps from the child restraint to the vehicle structure. LATCH-compatible child restraint systems are now available. However, because the lower anchorages are to be introduced over a period of years, child restraint systems having attachments for those anchorages will continue to also have features for installation using the vehicle's seat belts. Child restraints having tether straps and hooks for connection to the top tether anchorages have been available for some time. For some older child restraints, many child restraint manufacturers offer add-on tether strap kits or retro-fit kits. You are urged to take advantage of all the available attachments provided with your child restraint in any vehicle.

### Club Cab

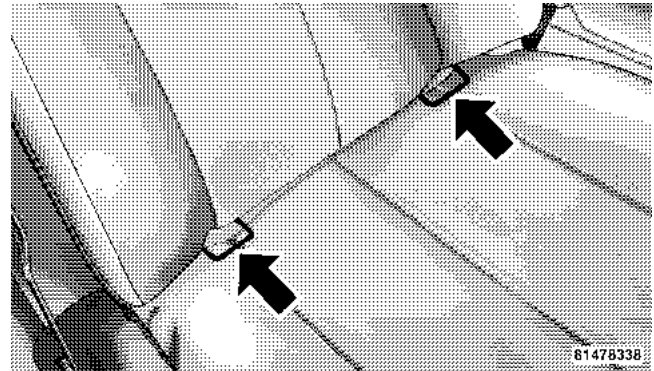
- The Club Cab front and rear right (if equipped with a rear seat) passenger seating positions have lower anchorages for LATCH equipped child restraints.

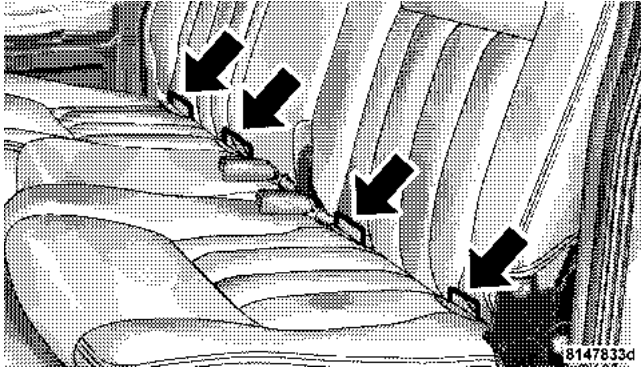
### Quad Cab

- The Quad Cab second row seat has lower anchorages that are capable of accommodating LATCH-compatible child seats having flexible, webbing-mounted lower attachments at all three seating positions. Child seats with fixed lower attachments must be installed in the outboard positions only. Regardless of the specific type of lower attachment, NEVER install LATCH compatible child seats such that two seats share a common lower anchorage. If you are installing LATCH-compatible child restraints in adjacent rear seating positions, you can use the LATCH anchors or

the vehicle's seat belt for the outboard position, but you must use the vehicle's seat belt at the center position.

If your child restraints are not LATCH compatible, you can only install the child restraints using the vehicle's seat belts. Please refer to the next section for typical installation instructions.





### Installing the LATCH-Compatible Child Restraint System

We urge that you carefully follow the directions of the manufacturer when installing your child restraint. Not all child restraint systems will be installed as described here. Again, carefully follow the installation instructions that were provided with the child restraint system. The rear

seat lower anchorages are round bars, located at the rear of the seat cushion where it meets the seat back, and are just visible when you lean into the vehicle to install the child restraint. You will easily feel them if you run your finger along the intersection of the seatback and seat cushion surfaces. In addition, there are tether strap anchorages each LATCH seating position (see section on Child Restraint Tether Anchor). Many, but not all restraint systems will be equipped with separate straps on each side, with each having a hook or connector for attachment to the lower anchorage and a means of adjusting the tension in the strap. Forward-facing toddler restraints and some rear-facing infant restraints will also be equipped with a tether strap, a hook for attachment to the tether strap anchorage and a means of adjusting the tension of the strap. You will first loosen the adjusters on the lower straps and on the tether strap so that you can more easily attach the hooks or connectors to the vehicle anchorages. Next attach the lower hooks or connectors

over the top of the anchorage bars, pushing aside the seat cover material. Then attach the tether strap to the anchorage located on the back of the seat, being careful to route the tether strap to provide the most direct path between the anchor and the child restraint. If your vehicle is equipped with adjustable rear head restraints, raise the head restraint and, route the tether strap under the head restraint and between the two posts. Finally, tighten all three straps as you push the child restraint rearward and downward into the seat, removing slack in the straps according to the child restraint manufacturer's instructions.

**NOTE:** When using the LATCH attaching system to install a child restraint, please ensure that all seat belts not being used for occupant restraints are stowed and out of reach of children. It is recommended that before installing the child restraint, buckle the seat belt so the seat belt is tucked behind the child restraint and out of reach. If the buckled seat belt interferes with the child

restraint installation, instead of tucking the seat belt behind the child restraint, route the seat belt through the child restraint belt path and then buckle it. This should stow the seat belt out of the reach of an inquisitive child. Remind all children in the vehicle that the seat belts are not toys and should not be played with, and never leave your child unattended in the vehicle.

### **WARNING!**

**Improper installation of a child restraint to the LATCH anchorages can lead to failure of an infant or child restraint. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.**



## Installing Child Restraints Using the Vehicle Seat Belt

The passenger seat belts are equipped with either cinching latch plates or automatic locking retractors, which are designed to keep the lap portion tight around the child restraint so that it should not be necessary to use a locking clip. If the seat belt has a cinching latch plate, pulling up on the shoulder portion of the lap/shoulder belt will tighten the belt. The cinching latch plate will keep the belt tight; however, any seat belt system will loosen with time, so check the belt occasionally and pull it tight if necessary. If the seat belt has an automatic locking retractor, it will have a distinctive label. Pull the belt from the retractor until there is enough to allow you to pass through the child restraint and slide the latch plate into the buckle. Then, pull the belt until it is all extracted from the retractor. Allow the belt to return to the retractor, pulling on the excess webbing to tighten the lap portion about the child restraint. For automatic

locking retractor seat belts, refer to "Automatic Locking Mode" earlier in this section. If you have trouble tightening the lap/shoulder belt on the child restraint because the buckle or latch plate is too close to the belt path opening on the restraint, follow these steps. If the buckle is webbing mounted, disconnect the latch plate from the buckle and twist the short buckle-end belt to shorten it. Insert the latch plate into the buckle with the release button facing out. If the belt still can't be tightened, the buckle is not webbing mounted, or if by pulling and pushing on the restraint loosens the belt, you may need to do something more. Disconnect the latch plate from the buckle, turn the latch plate around, and insert the latch plate into the buckle again. If you still can't make the child restraint secure, try a different seating position or use the locking clip provided with your child restraint. See the section "Child Restraint Tether Anchor" to complete the child seat installation.

### Child Restraint Tether Anchor



The Club Cab model has two routing straps located behind each of the rear outboard seating positions. The tether anchor itself is located in the center of vehicle, in between the two seating positions. The front outboard passenger seating position is also equipped with a child tether anchorage, located at the base of the front seat back. When there is a rear seat delete option, the tether anchorage located on the cab back panel is designed to be used for the front seat center seating position. The Quad cab model has three anchorages located behind each of the rear seating positions (rear left, rear center, and rear right).

#### **WARNING!**

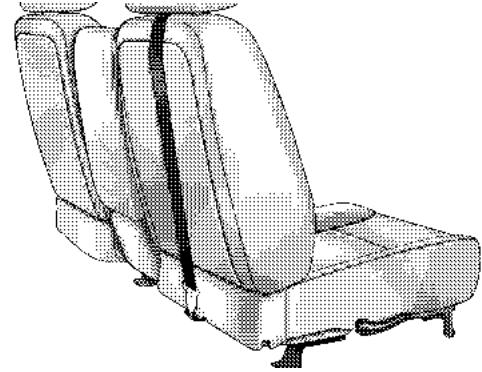
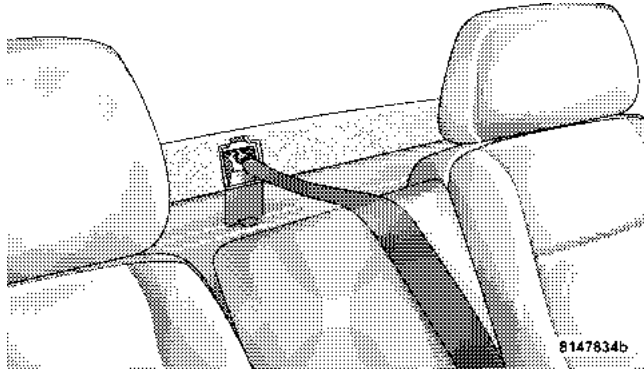
**With a child restraint installed in the rear driver or passenger side locations, use care when adjusting the front seat(s) rearward, to avoid the front seat back coming in contact with the belted child directly behind the seat. The child could be injured.**

#### **WARNING!**

**Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be seriously injured or killed. Make sure the child restraint tether strap is always routed through the proper anchor strap inner loop.**

### Tether Strap at the Front Passenger Seat (Club Cab)

1. Route the child restraint tether strap up and over the front passenger seat back and under the head restraint.
2. Connect the tether strap to the lower anchor.
3. Remove the slack in the tether strap so that it is pulled tight.

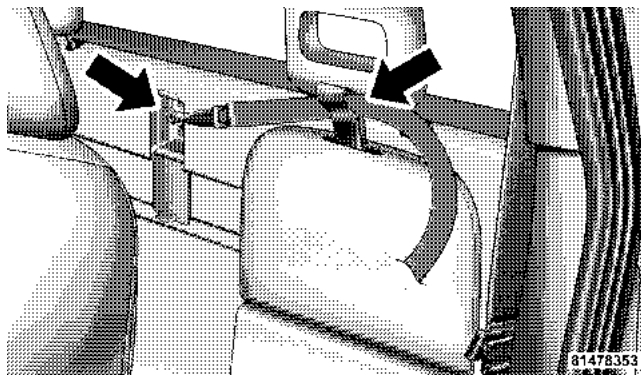
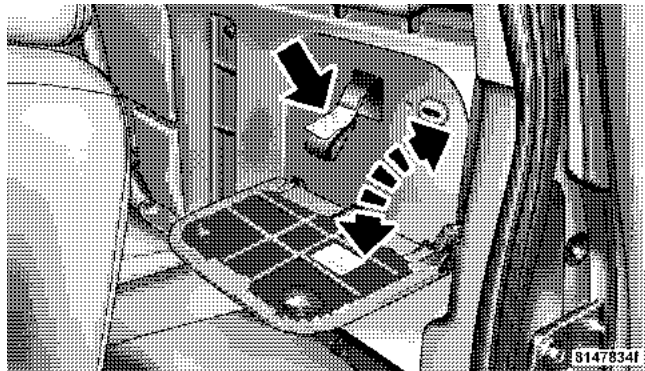


### Tether Straps at the Rear Passenger Seat (Club Cab)

1. Route the child restraint tether strap through the routing loop, located directly behind the child restraint. The routing loops are located behind the flip-down door on the cab back panel (padded bolster).

## 68 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

2. Route the tether strap across to the center tether anchorage. The center tether is located behind the slide door in the center of the vehicle, between the two seating positions.
3. Remove the slack in the tether strap so that the anchor strap is pulled tight.

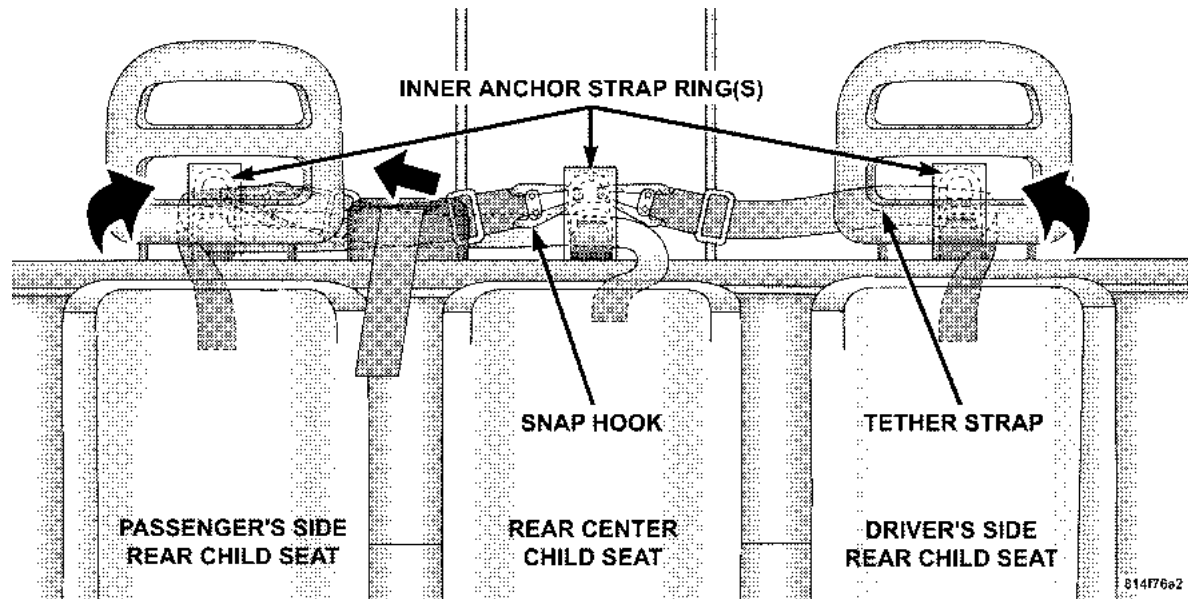


**Tether Straps at the Rear Passenger Seat (Quad Cab)**

1. Route the child restraint tether strap under the head restraint for the outboard seating positions, and then through the anchor strap outer loop (webbing material loop), located directly behind the child restraint.
2. Route the tether strap across to the nearest installed anchor strap, and attach the tether strap hook to the anchor strap inner metal ring.

3. Remove the slack in the tether strap so that both anchor straps are pulled tight.

**NOTE:** Two Anchors must be used for any of the three seating positions.



Multiple Child Restraint Double Cab

814176a2

**WARNING!**

An incorrectly anchored tether strap could lead to seat failure and injury to the child. In a collision, the seat could come loose and allow the child to crash into the inside of the vehicle or other passengers, or even be thrown from the vehicle. Use only the anchor positions directly behind the child restraint to secure a child restraint top tether strap. See your dealer for help if necessary.

**Transporting Pets**

Airbags deploying in the front seat could harm your pet. An unrestrained pet will be thrown about and possibly injured, or injure a passenger during panic braking or in a collision. Pets should be restrained in the rear seat in pet harnesses or pet carriers that are secured by seat belts.

**ENGINE BREAK-IN RECOMMENDATIONS**

A long break-in period is not required for the engine in your new vehicle. Drive moderately during the first 300 miles (500 km). After the initial 60 miles (100 km), speeds up to 50 or 55 mph (80 or 90 km/h) are desirable. While cruising, brief full-throttle acceleration, within the limits of local traffic laws, contributes to a good break-in.

Avoid wide open throttle acceleration in low gear.

The engine oil installed in the engine at the factory is a high-quality, energy-conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown in Section 7.

**NON-DETERGENT OR STRAIGHT MINERAL OILS  
MUST NEVER BE USED.**

A new engine may consume some oil during its first few thousand miles of operation. This is a normal part of the break-in and is not an indication of difficulty.

### SAFETY TIPS

#### Exhaust System

#### WARNING!

**Exhaust gases contain carbon monoxide, an extremely toxic gas that by itself is colorless and odorless. To avoid inhaling these gases, the following precautions should be observed:**

- Do not run the engine in a closed garage or in confined areas any longer than needed to move your vehicle in or out of the area.

- It may be necessary to sit in a parked vehicle with the engine running for more than a short period. If so, adjust your climate control system to force outside air into the vehicle. Set the blower at high speed and the controls in any position except OFF or RECIRC.
- The best protection against carbon monoxide entry into the vehicle body is a properly maintained engine exhaust system.

Be aware of changes in the sound of the exhaust system; exhaust fumes detected inside the vehicle; or damage to the underside or rear of the vehicle. Have a competent mechanic inspect the complete exhaust system and adjacent body areas for broken, damaged, deteriorated or mispositioned parts. Open seams or loose connections could permit exhaust fumes to seep into the passenger compartment. In addition, inspect the exhaust system each time the vehicle is raised for lubrication or oil change. Replace or adjust as required.



## Safety Checks You Should Make Inside The Vehicle

### Heater Defroster Ducts

Inspect the heater defroster ducts for proper operation. Check for proper air flow through all defroster ducts. If there are any question regarding the operation of your heater defroster ducts, have the system checked by an authorized dealer

### Seat Belts

Inspect the belt system periodically, checking for cuts, frays and loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system.

Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.) or if the front airbags have deployed. If there is any question regarding belt or retractor condition, replace the belt.

### Airbag Light

The light should come on and remain on for 6 to 8 seconds as a bulb check when the ignition switch is first turned ON. If the light is not lit during starting, see you authorized dealer. If the light stays on, flickers or comes on while driving, have the system checked by an authorized dealer. If there is a problem with the airbag light the seatbelt light will flash.

## Safety Checks You Should Make Outside The Vehicle

### Tires

Examine tires for tread wear or uneven wear patterns. Check for stones, nails, glass or other objects lodged in the tread.

Inspect for tread cuts or sidewall cracks. Check wheel nuts for tightness and tires for proper pressure.

**Lights**

Check the operation of all exterior lights. Check turn signal and high beam indicator lights on the instrument panel.

**Door Latches**

Check for positive closing, latching and locking.

**Fluid Leaks**

Check area under vehicle after overnight parking for fuel, water, oil, or other fluid leaks. Also, if fuel fumes are detected the cause should be located and corrected.

# UNDERSTANDING THE FEATURES OF YOUR VEHICLE

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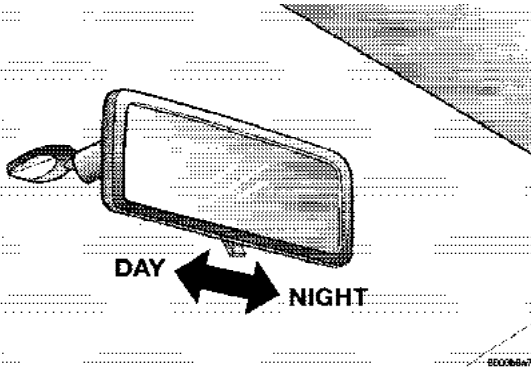
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## MIRRORS

### Inside Day/Night Mirror

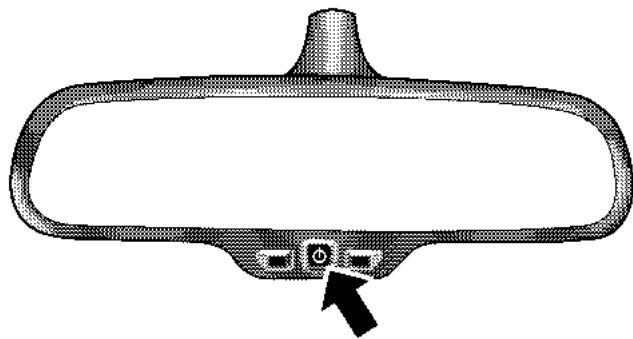
The mirror should be adjusted to center on the view through the rear window. A two-point pivot system allows for horizontal and vertical adjustment of the mirror.



Annoying headlight glare can be reduced by moving the small control under the mirror to the night position (toward rear of truck). The mirror should be adjusted while set in the day position (toward windshield).

### Automatic Dimming Mirror — If Equipped

This mirror will automatically adjust for annoying headlight glare from vehicles behind you. You can turn the feature on or off by pressing the button at the base of the mirror. A light in the button will indicate when the dimming feature is activated.



Automatic Dimming Mirror

817892c4

### CAUTION!

To avoid damage to the mirror during cleaning, never spray any cleaning solution directly onto the mirror. Apply the solution onto a clean cloth and wipe the mirror clean.

### Outside Mirrors

To receive maximum benefit, adjust the outside mirror(s) to center on the adjacent lane of traffic with a slight overlap of the view obtained on the inside mirror.

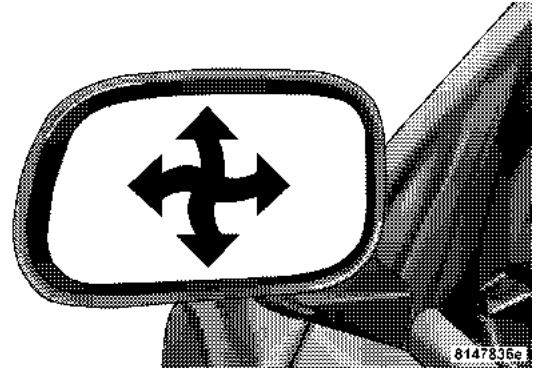
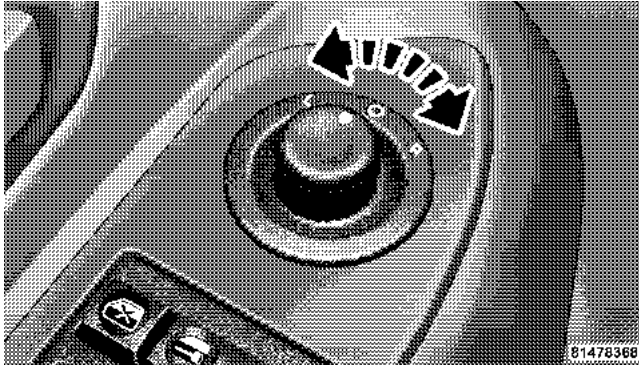
### Exterior Mirrors Folding Feature — If Equipped

Folding exterior mirrors are hinged and may be moved either forward or rearward to resist damage.



### Electric Remote-Control Mirrors

The controls for the power mirrors are located on the driver's door trim panel.



3

To adjust a mirror, turn the control wand toward the left or right mirror positions indicated. Tilt the control wand in the direction you want the mirror to move. When finished adjusting the mirror, turn the control to the center position to prevent accidentally moving a mirror.

**WARNING!**

Vehicles and other objects seen in the right side convex mirror will look smaller and farther away than they really are. Relying too much on your right side mirror could cause you to collide with another vehicle or other object. Use your inside mirror when judging the size or distance of a vehicle seen in the right side mirror.

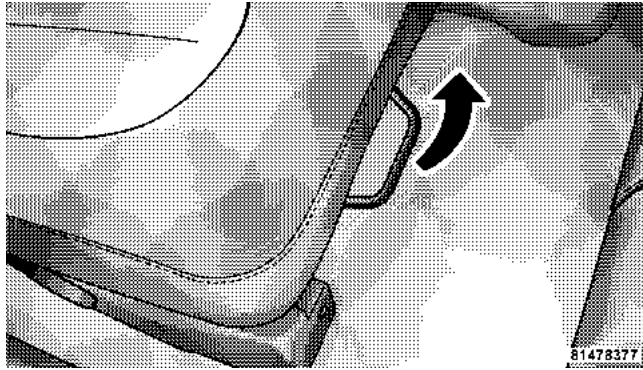
**Heated Mirrors — If Equipped**

Heated mirrors are automatically activated when you depress the rear window defroster switch located on the instrument panel. The light will illuminate to indicate that the heating elements are ON. Turning Off the rear window defroster or the ignition will deactivate the heated mirrors.

**SEATS****Manual Seat Adjustment**

The adjusting lever is at the front of the seat, near the floor. Lift the lever and move the seat to the desired position. Release the bar to lock the seat into position.

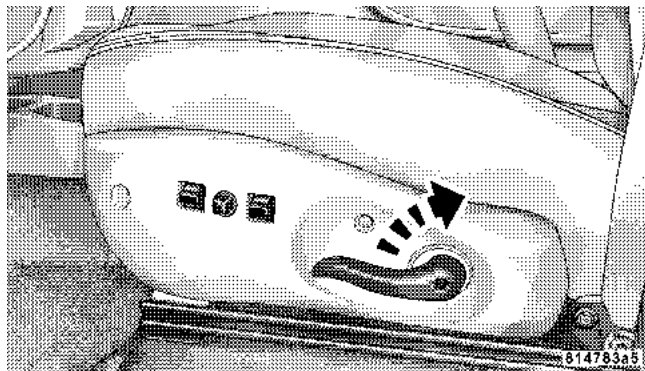
Using body pressure, move forward and rearward on the seat to be sure the seat adjusters have latched.

**WARNING!**

Adjusting a seat while the vehicle is moving is dangerous. The sudden movement of the seat could cause you to lose control. The seat belt might not be properly adjusted and you could be injured. Adjust any seat only while the vehicle is parked.

**3****Front Seats Manual Seat Recliners**

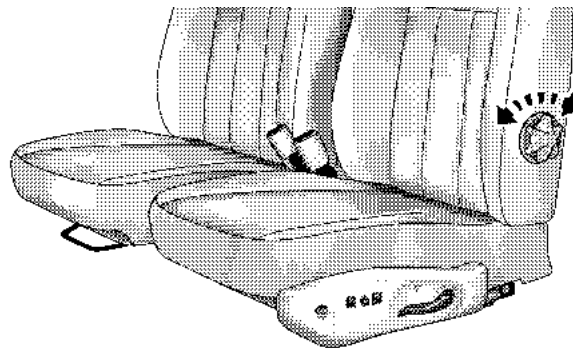
The front seats are equipped with recliners. The reclining mechanism is operated by a lever located on the right side of the passenger's seat and the left side of the driver's seat. To recline, lean forward slightly before lifting the lever, then push back to the desired position and release the lever. Lean forward and lift the lever to return the seatback to its normal position. Using body pressure, lean forward and rearward on the seat to be sure the seatback is locked.

**WARNING!**

Do not ride with the seatback reclined so that the shoulder belt is no longer resting against your chest. In a collision you could slide under the seat belt and be seriously or even fatally injured. Use the recliner only when the vehicle is parked.

**Manual Lumbar Support Adjustment — If Equipped**

The manual lumbar support rotary control adjustment is located on the left side of the driver's seat. Rotate the knob to increase or decrease the amount of lumbar support.

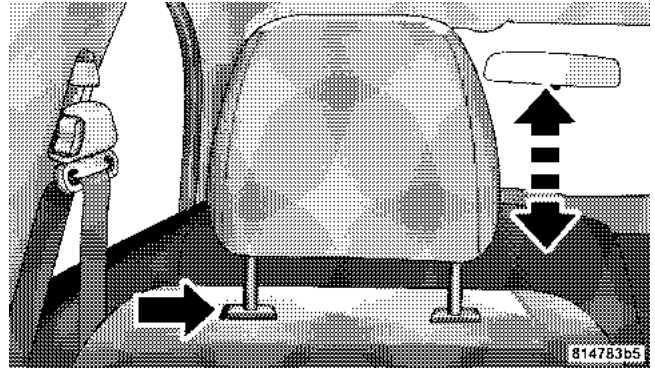


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### Adjustable Head Restraints — Front Seating Positions

Head restraints can reduce the risk of whiplash injury in the event of impact from the rear. Pull up or push down on the restraints so that the upper edge is as high as practical, at least to the level of the ears.

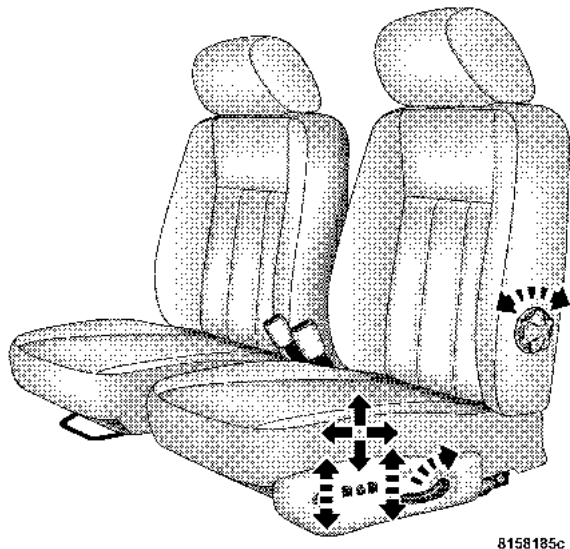
To lower the head restraint, depress the release button located at the base of the head restraint and push down on the head restraint.



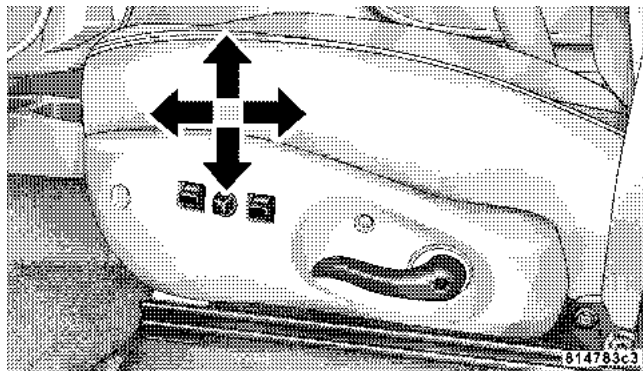
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### 6 - Way Power Seat Adjuster — Driver's Side Only

The 6-way power seat adjuster switches are on the outboard side of the driver's seat. Use this switch to move the seat up or down, forward or rearward, or tilt.



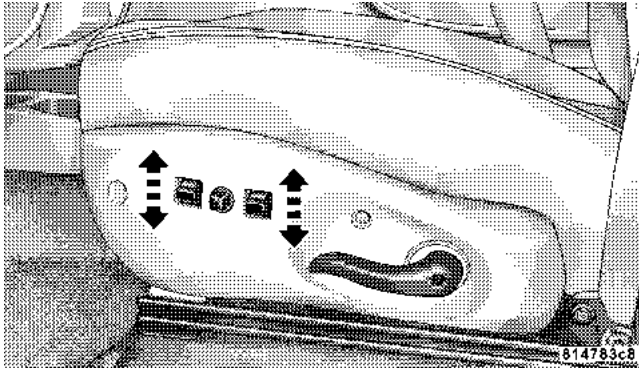
Power Seat Control Location



#### Up, Down, Forward, and Rearward

The power seat controls are on the outboard side of the driver's seat cushion. Three switches control the seat movement. The four-way switch in the center can be moved forward or backwards to get the most comfortable position. The same switch can be moved up and down to

control seat height. Change the seat angle by using the two toggle switches, tilting it up or down.



Tilt Adjustment

### Club Cab/Quad Cab Rear Seat

More cargo space is available by lifting up on the rear seat cushion.

The Quad Cab rear seat is a 60/40 split cushion and full back. Either cushion can be raised independently.

### Heated Seats — If Equipped

The heated seat switches are located at the front of the floor console.

Press the desired switch once to obtain High heat level, then press the switch again to obtain Low heat level. A third button press will turn Off the heated seat. If you do not purposefully turn the switch Off, the seat heating level will automatically change to the next lower level, or Off. The High heat level operates for 30 minutes (approximate), the Low heat level operates for 30 minutes (approximate). The heated seat will also turn Off when the ignition is turned Off. Both indicators On identifies High heat level. The lower indicator On identifies Low

heat level. Flashing indicator lights on the switch indicate that the Heated Seat system needs servicing.

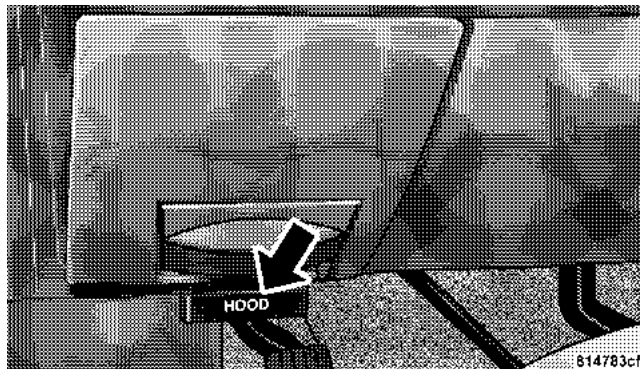
### WARNING!

Persons who are unable to feel pain to the skin because of advanced age, chronic illness, diabetes, spinal cord injury, medication, alcohol use, exhaustion or other physical condition must exercise care when using the seat heater. It may cause burns even at low temperatures, especially if used for long periods of time.

Do not place anything on the seat that insulates against heat, such as a blanket or cushion. This may cause the seat heater to overheat.

### TO OPEN AND CLOSE THE HOOD

To open the hood, two latches must be released. First pull the hood release lever located under the left side of the instrument panel.

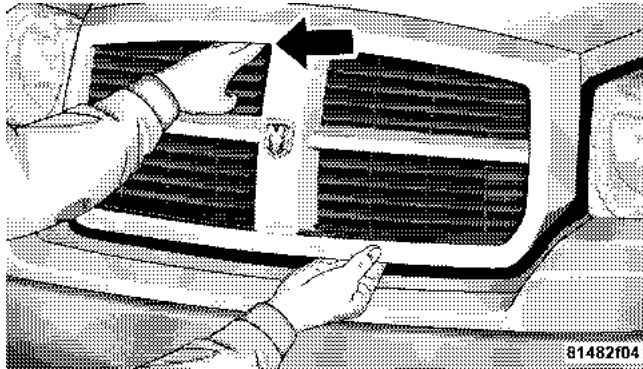


Hood Release Lever Location



Then push the safety latch lever down while lifting the grille with your right hand. It is located at the top center of the grille just left of center.

Lift the hood and gas filled props will hold it open.



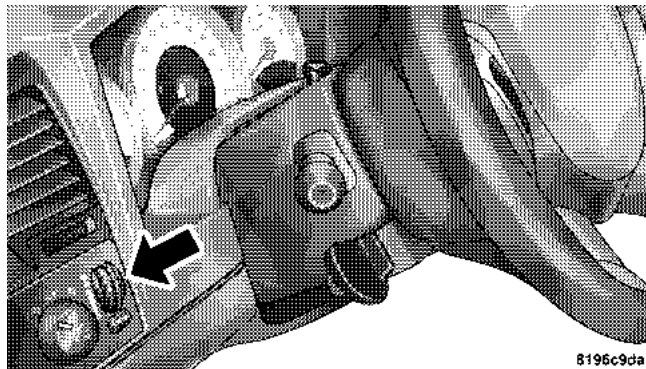
Secondary Latch Location (Push Down)

To prevent possible damage, do not slam the hood to close it. Use a firm downward push at the center front edge of the hood to ensure that both latches engage. Never drive your vehicle unless the hood is fully closed, with both latches engaged.

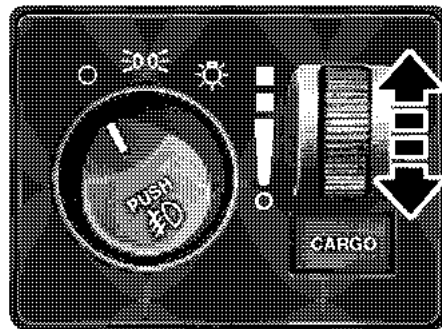
### WARNING!

If the hood is not fully latched, it could fly up when the vehicle is moving and block your forward vision. Be sure all hood latches are fully latched before driving.

## LIGHTS



## Interior Lights



Courtesy and dome lights are turned on when the front doors are opened, when the dimmer control (rotating wheel on the right side of the switch) is rotated to the second upward detent position, or if equipped, when the UNLOCK button is pressed on the key fob. When a door is open and the interior lights are on, rotating the dimmer

control all the way down to the OFF detent will cause all the interior lights to go out. This is also known as the "Party" mode because it allows the doors to stay open for extended periods of time without discharging the vehicle's battery.

The brightness of the instrument panel lighting can be regulated by rotating the dimmer control up (brighter) or down (dimmer). When the headlights are ON you can supplement the brightness of the odometer, trip odometer, radio and overhead console by rotating the control up until you hear a click. This feature is termed the "Parade" mode and is useful when headlights are required during the day. If the dimmer control is not in this position, the audio display may be difficult to read if the headlights are on during the daytime.

Club Cab/Quad Cab models may have an optional switched dome lamp that may be operated by pressing the lens.

### **Battery Saver**

To protect the life of your vehicle's battery, Load Shedding is provided for both the interior and exterior lights.

If the ignition is off and any door is left ajar for 15 minutes or the dimmer control is rotated upwards for 15 minutes, the interior lights will automatically turn off.

If the headlamps remain on while the ignition is cycled off, the exterior lights will automatically turn off after 8 minutes. If the headlamps are turned on and left on for 8 minutes while the ignition is off, the exterior lights will automatically turn off.

**NOTE:** Battery Saver mode is cancelled if the ignition is ON.

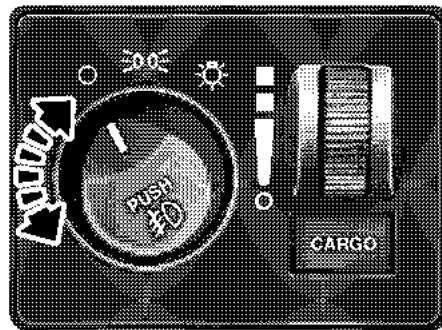
### Headlamp Delay

To aid in your exit, your vehicle is equipped with a headlamp delay that will leave the headlamps on for 60 seconds. This delay is initiated when the ignition is turned OFF while the headlamp switch is on, and then the headlamp switch is cycled off. The headlamps will remain on for 60 seconds. Headlamp delay can be cancelled by either turning the headlamp switch ON then OFF or by turning the ignition ON.

### Headlights, Parking Lights, Panel Lights



When the headlight switch is rotated to the first position, the parking lights, taillights, side marker lights, license plate light and instrument panel lights are all turned on. The headlights will turn ON when the switch is rotated to the second position.



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Your vehicle is equipped with plastic headlight lenses that are lighter and less susceptible to stone breakage than glass headlights.

Plastic is not as scratch resistant as glass and therefore different lens cleaning procedures must be followed.

To minimize the possibility of scratching the lenses and reducing light output, avoid wiping with a dry cloth. To remove road dirt, wash with a mild soap solution followed by rinsing.

Do not use abrasive cleaning components, solvents, steel wool or other abrasive materials to clean the lenses.


### **Daytime Running Lights (Canada Only)**

The headlights on your vehicle will illuminate when the engine is started. This provides a constant "Lights ON" condition until the ignition is turned OFF. The lights illuminate at less than 50% of normal intensity. If the parking brake is applied the Daytime Running Lights will turn off.

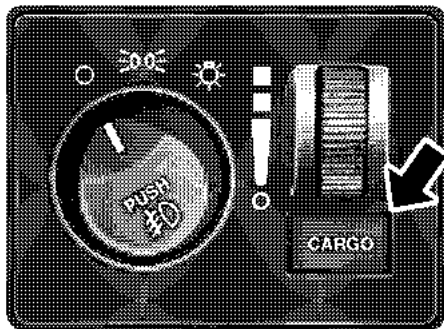
### **Lights-on Reminder**

If the headlights, parking lights, courtesy lights or cargo lights are left on, after the ignition is turned off, a chime will sound when the driver's door is opened.

### **Fog Lights — If Equipped**

 The foglights are turned ON by placing the headlight rotary control in the parking light or headlight position and pressing on the headlight rotary control. The fog lights will operate only when the parking lights are ON or when the vehicle headlights are ON low beam. An indicator light located in the instrument cluster will illuminate when the fog lights are on. The fog lights will turn off when the switch is pressed a second time, also when the headlight switch is rotated to the OFF position, or the high beam is selected.

### CARGO Light — If Equipped



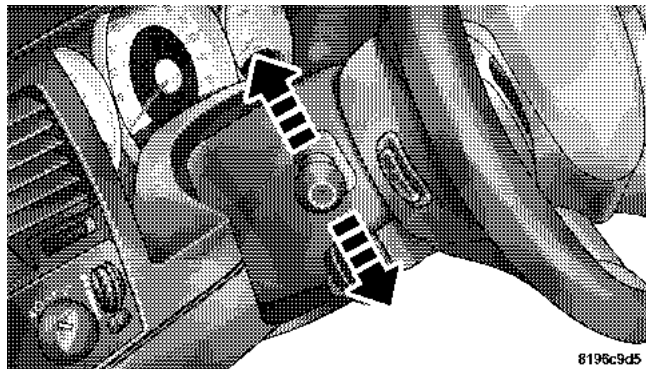
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The cargo lights are turned on by pressing on the CARGO button. The interior lights will also turn on when the cargo lights are on. The cargo lights will also turn on for 30 seconds when a key fob Unlock is pressed, as part of the illuminated entry feature.

### Multifunction Control Lever

The multifunction control lever is located on the left side of the steering column.

### Turn Signals



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Move the lever up or down to signal a right-hand or left-hand turn.

The arrow on either side of the instrument cluster flashes to indicate the direction of the turn, and proper operation of the front and rear turn signal lights. If an indicator fails to light when the lever is moved, it would suggest that the switch or indicator lamp is defective.

If a defective bulb or wiring circuit is detected for the turn signal system, the arrow indicators will flash at a faster rate.

You can signal a lane change by moving the lever partially up or down.

**NOTE:** If a turn signal has been left on for at least a mile duration, a continuous chime will sound.

### Turn Signal Auto-Mode

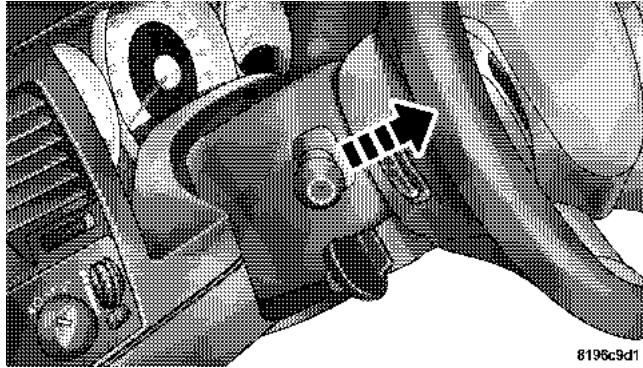
Tap the multi-function control lever once and the turn signal (left or right) will flash 3 times, and automatically turn off.

### Passing Light

You can signal another vehicle with your headlights by partially pulling the multifunction lever toward the steering wheel. This will cause the high beam headlights to turn on until the lever is released.

### High Beam / Low Beam Select Switch

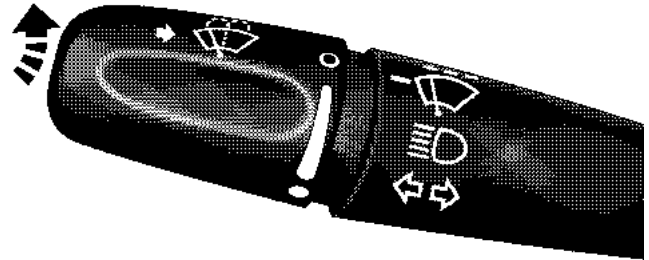
Pull the multifunction control lever fully toward the steering wheel to switch the headlights from HIGH or LOW beam.



### WINDSHIELD WIPERS AND WASHERS

The multifunction control lever is located on the left side of the steering column.

#### Windshield Wipers



The wipers and washers are operated by a switch in the multifunction control lever. Turn the end of the handle to select the desired wiper speed.



### Intermittent Wiper System

The intermittent feature of this system was designed for use when weather conditions make a single wiping cycle, with a variable pause between cycles, desirable. For maximum delay between cycles, rotate the control knob into the upper end of the delay range.

The delay interval decreases as you rotate the knob until it enters the LO continual speed position. The delay can be regulated from a maximum of about 18 seconds between cycles, to a cycle every 2 seconds. The delay intervals will double in duration when the vehicle speed is 10 mph (16 km) or less.

### WARNING!

**Sudden loss of visibility through the windshield could lead to an accident. You might not see other vehicles or other obstacles. To avoid sudden icing of the windshield during freezing weather, warm the windshield with defroster before and during windshield washer use.**

**NOTE:** If the front wiper is operating when the ignition is turned off, the wiper will automatically return to the "Park" position. When the vehicle is restarted, the wipers will resume operation.

### Windshield Washers

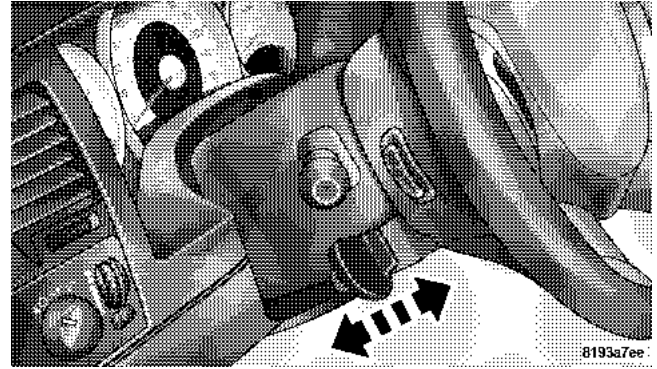
To use the washer, push in on the washer knob on the end of the multifunction control lever and hold while spray is desired. If the washer knob is depressed while in the delay range, the wiper will operate for several seconds

after the washer knob is released. It will then resume the intermittent interval previously selected. If the washer knob is pushed, for a period greater than 1 second, while in the OFF position, the wiper will wipe approximately three wipes, after the wash knob is released.

To prevent freeze-up of your windshield washer system in cold weather, select a solution or mixture that meets or exceeds the temperature range of your climate. This rating information can be found on most washer fluid containers.

### TILT STEERING COLUMN

To tilt the column, pull rearward on the lever below the turn signal control and move the wheel up or down, as desired. Push the lever forward to lock the column firmly in place.



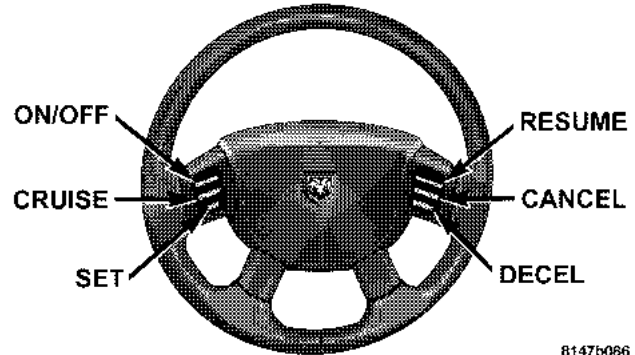
Tilt Steering Column Lever

**WARNING!**

Tilting the steering column while the vehicle is moving is dangerous. Without a stable steering column, you could lose control of the vehicle and have an accident. Adjust the column only while the vehicle is stopped. Be sure it is locked before driving.

**ELECTRONIC SPEED CONTROL — IF EQUIPPED**

When engaged, this device takes over accelerator operation at speeds greater than (refer to the table below for the speed for your specific engine). The controls are mounted on the steering wheel.



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**To Activate**

Push the ON/OFF button to the ON position. In the instrument cluster, the word "CRUISE" illuminates when the system is on.

### To Set At A Desired Speed

When the vehicle has reached the desired speed, press and release the SET button. Release the accelerator and the vehicle will operate at the selected speed.

### To Deactivate

A soft tap on the brake pedal, normal braking, or pressing the CANCEL button will deactivate speed control without erasing the memory. Pushing the ON/OFF button to the OFF position or turning off the ignition erases the memory.

### WARNING!

Leaving the Speed Control ON when not in use is dangerous. You could accidentally set the system to cause it to go faster than you want. You could lose control and have an accident. Always leave the system OFF when you aren't using it.

### To Resume Speed

To resume a previously set speed, push and release the RESUME button. Resume can be used at any speed above (refer to the table below for the speed for your specific engine).

### To Vary The Speed Setting

When the speed control is on, speed can be increased by pressing and holding the ACCEL button. When the button is released, a new set speed will be established.

Tapping the ACCEL button once will result in a speed increase (refer to the table below for the speed for your specific engine). Each time the button is tapped, speed increases so that tapping the button three times will increase speed by three increments.

Tapping the DECEL button once will result in a speed decrease (refer to the table below for the speed for your specific engine). Each time the button is tapped, speed will decrease. For example, tapping the button 3 times will decrease the speed by 3 times the speed listed in the table below (refer to the table below for the speed for your specific engine).

To decrease speed while the speed control is on, press and hold the DECEL button. Release the button when the desired speed is reached, and the new speed will be set.

Functions	All Engines
Engage Speed	30 mph (48 km/h)
Minimum RESUME Speed	25 mph (40 km/h)
ACCEL Increase	2 mph (3km/h)
DECEL Decrease	1 mph (2 km/h)
Dropout Speed	25 mph (40 km/h)

### To Accelerate For Passing

Depress the accelerator as you would normally. When the pedal is released, the vehicle will return to the set speed.

**NOTE:** When driving uphill, at elevations above 2,000 feet (610 meters), or when the vehicle is heavily loaded (especially when towing) the vehicle may slow below the SET speed. If the vehicle speed drops below (refer to the table below for the speed for your specific engine), the speed control will automatically disengage. If this happens, you can push down on the accelerator pedal to maintain the desired speed.

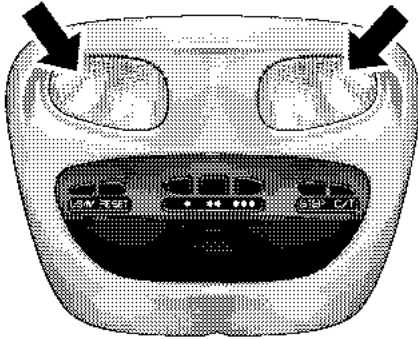
Vehicles equipped with a Automatic transmission may exhibit several downshifts under the above conditions. To reduce the frequency of the downshifts and to improve vehicle performance, it is advisable to lock out overdrive by pressing the "TOW/HAUL" button located at the end of the gear shifter.

### WARNING!

**Speed Control can be dangerous where the system can't maintain a constant speed. Your vehicle could go too fast for the conditions, and you could lose control. An accident could be the result. Don't use Speed Control in heavy traffic or on roads that are winding, icy, snow-covered, or slippery.**

## OVERHEAD CONSOLE

The overhead console has the following features:



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- Courtesy Lights
- Garage Door Opener — If Equipped
- Compass/Temperature Mini-Trip Computer — If Equipped

## Courtesy/Reading Lights

Near the front of the console are two courtesy/reading lights.

Both lights illuminate as courtesy lights when a door is opened, when the dimmer control is rotated to the courtesy light position (fully upward position), or when the UNLOCK button is pressed on the Remote Keyless Entry transmitter, if so equipped. These lights are also operated individually as reading lights by pressing the recessed area of the corresponding lens.

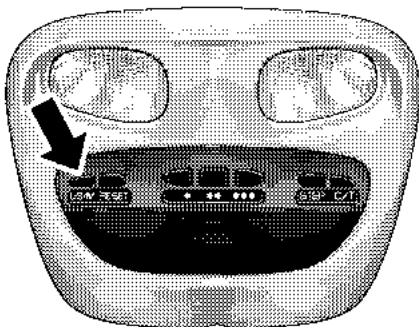
**NOTE:** The courtesy/reading lights will remain on until the switch is pressed a second time, so be sure they have been turned off before leaving the vehicle. If the interior lights are left on after the vehicle is turned OFF, they will extinguish after 8 minutes.

### COMPASS/TEMPERATURE MINI-TRIP COMPUTER

This feature allows you to choose between a compass/temperature display and one of four trip conditions being monitored.

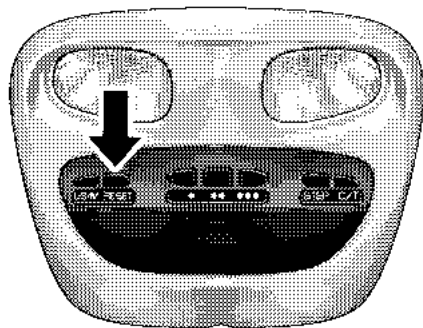
#### US/M Button

Use this button to change the display from U.S. to metric measurement units.



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#### RESET Button



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Use this button to reset the following displays:

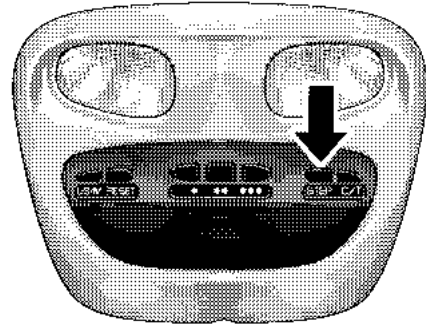
- Average Fuel Economy
- Trip Odometer
- Elapsed time.



### Global Reset

If the RESET button and STEP button are pressed at the same time and held for 3 seconds the Global Reset feature will reset the distance to empty (using a default fuel economy value), fuel economy, trip odometer, and elapsed time displays.

### Step Button



8147363a

Use this button to choose or cycle through the four trip conditions.

**Average Fuel Economy (AVG ECO)**

Shows the average fuel economy since the last reset. This display mode becomes less sensitive to instantaneous changes in fuel consumption as the number of total vehicle miles since the last reset increases. It is suggested that this mode be reset periodically for general operation or when driving conditions change significantly (for example, at the end of a trip or when a trailer is connected or disconnected).

**Distance To Empty (DTE)**

Shows the estimated distance that can be travelled with the fuel remaining in the tank. The estimated distance is determined by a weighted average of the instantaneous and average fuel economy, according to the current fuel tank level.

When Distance To Empty = LOW FUEL, the fuel gauge pointer will initially be on the red "E" marker. At this point (fuel gauge pointer on the the red "E" marker) there

is reserve fuel capacity, which corresponds to approximately 8% of tank volume. This reserve capacity was put in place to prevent the likelihood of customers running out of fuel when operating at maximum load conditions in areas where there aren't many gas stations.

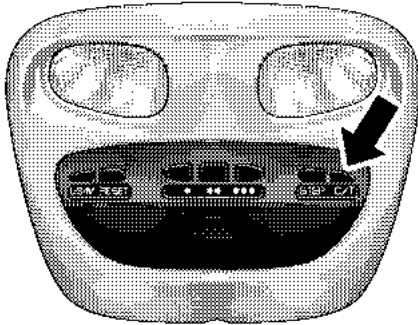
**NOTE:** The Distance To Empty will remain equal to zero, until the vehicle runs out of fuel or is refueled.

**Trip Odometer (ODO)**

This display shows the distance traveled since the last reset.

**Elapsed Time (ET)**

This display shows the accumulated ignition ON time since the last reset.

**C/T Button**

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Use this button to select a readout of the outside temperature and one of eight compass headings that indicate the direction in which the vehicle is facing.

**Compass/Temperature Display****WARNING!**

Even if the display still reads a few degrees above 32°F ( 0°C), the road surface may be icy, particularly in woods or on bridges. Drive carefully under such conditions to prevent an accident and possible personal injury or property damage.

**3****Automatic Compass Calibration**

This compass is self-calibrating which eliminates the need to manually set the compass. When the vehicle is new, the compass may appear erratic and the CAL symbol will be displayed.

After completing one 360° turn, with the vehicle traveling less than 5 mph (8 km/h), in an area free from large metal or metallic objects, the CAL symbol will turn off and the compass will function normally.

### Manual Compass Calibration

**NOTE:** To ensure proper compass calibration, make sure the compass variance is properly set before manually calibrating the compass.

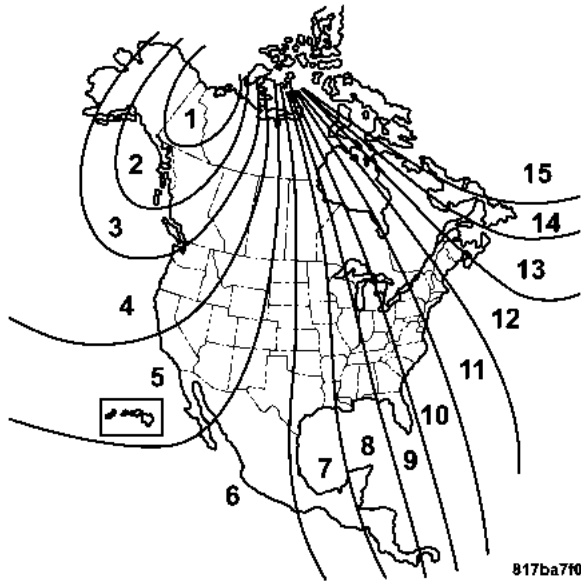
If the compass appears erratic and the CAL symbol does not appear, you must manually put the compass into the "Calibration" mode.

### To Put Into a Calibration Mode

Turn on the ignition and set the display to "Compass/Temperature." Press and hold the RESET button to change the display between VAR (compass variance) and CAL (compass calibration) modes. When the CAL symbol is displayed complete one 360 degree turn in an area

free from large metal objects or power lines. The CAL symbol will turn off and the compass will function normally.

**Compass Variance** is the difference between magnetic north and geographic north. In some areas of the country, the difference between magnetic and geographic north is great enough to cause the compass to give false readings. If this occurs, the compass variance must be set according to the Compass Variance Map.



Compass Variance Map

To set the variance: Turn the ignition ON and set the display to "Compass/Temperature." Press and hold the RESET button approximately five seconds. The last variance zone number will be displayed. Press the STEP button to select the new variance zone and press the RESET button to resume normal operation.

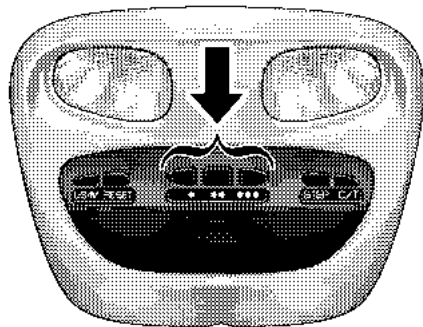
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### Outside Temperature

Because the ambient temperature sensor is located underhood, engine temperature can influence the displayed temperature, therefore, temperature readings are slowly updated when the vehicle speed is below 20 mph (30 km/h) or during stop and go driving.

### **GARAGE DOOR OPENER — IF EQUIPPED**

The HomeLink® Universal Transceiver replaces up to three remote controls (hand held transmitters) that operate devices such as garage door openers, motorized gates, or home lighting. It triggers these devices at the push of a button. The Universal Transceiver operates off your vehicle's battery and charging system; no batteries are needed.



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For additional information on HomeLink®, call 1-800-355-3515, or on the internet at [www.homelink.com](http://www.homelink.com).

**WARNING!**

A moving garage door can cause injury to people and pets in the path of the door. People or pets could be seriously or fatally injured. Only use this transceiver with a garage door opener that has a "stop and reverse" feature as required by federal safety standards. This includes most garage door opener models manufactured after 1982. Do not use a garage door opener without these safety features it could cause injury or death. Call toll-free 1-800-355-3515 or, on the Internet at [www.homelink.com](http://www.homelink.com) for safety information or assistance.

**WARNING!**

Vehicle exhaust contains carbon monoxide, a dangerous gas. Do not run the vehicle's exhaust while training the transceiver. Exhaust gas can cause serious injury or death.

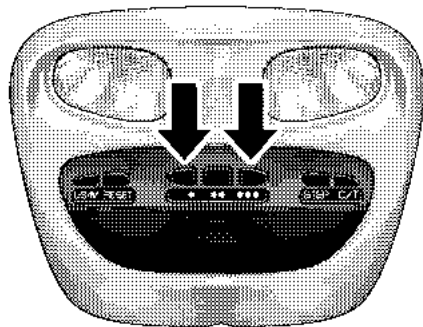
**WARNING!**

Your motorized door or gate will open and close while you are training the Universal Transceiver. Do not train the transceiver if people or pets are in the path of the door or gate. A moving door or gate can cause serious injury or death to people and pets or damage to objects.

## Programming HomeLink

**NOTE:** When programming a garage door opener, it is advised to park outside the garage. It is also recommended that a new battery be placed in the hand-held transmitter of the device being programmed to HomeLink for quicker training and accurate transmission of the radio-frequency signal.

1. Press and hold the two outer HomeLink buttons, and release only when the indicator light begins to flash (after 20 seconds). **Do not** hold the buttons for longer than 30 seconds and **do not** repeat step one to program a second and/or third hand-held transmitter to the remaining two HomeLink buttons.



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2. Position the end of your hand-held transmitter 1-3 inches (3-8 cm) away from the HomeLink buttons while keeping the indicator light in view.
3. Simultaneously press and hold both the HomeLink button that you want to train and the hand-held transmitter buttons. **Do not release the buttons until step 4 has been completed.**



**NOTE:** Some gate operators and garage door openers may require you to replace this Programming Step 3 with procedures noted in the "Gate Operator/Canadian Programming" section.

4. The HomeLink indicator light will flash slowly and then rapidly after HomeLink successfully receives the frequency signal from the hand-held transmitter. Release both buttons after the indicator light changes from the slow to the rapid flash.

5. Press and hold the just trained HomeLink button and observe the indicator light. If the indicator light **stays on constantly, programming is complete** and your device should activate when the HomeLink button is pressed and released.

**NOTE:** To program the remaining two HomeLink buttons, begin with "Programming" **step two. Do not repeat step one.**

If the indicator light blinks **rapidly for two seconds and then turns to a constant light, continue with "Programming" steps 6-8** to complete the programming of a rolling code equipped device (most commonly a garage door opener).

6. At the garage door opener receiver (motor-head unit) in the garage, locate the "learn" or "smart" button. This can usually be found where the hanging antenna wire is attached to the motor-head unit.

7. Firmly press and release the "learn" or "smart" button. (The name and color of the button may vary by manufacturer.)

**NOTE:** There are 30 seconds in which to initiate step eight.

8. Return to the vehicle and firmly **press, hold for two seconds and release** the programmed HomeLink button. Repeat the "press/hold/release" sequence a second time,

and, depending on the brand of the garage door opener (or other rolling code equipped device), repeat this sequence a third time to complete the programming.

HomeLink should now activate your rolling code equipped device.

**NOTE:** To program the remaining two HomeLink buttons, begin with "Programming" **step two**. **Do not repeat step one**. For questions or comments, please contact HomeLink at **www.homelink.com** or **1-800-355-3515**.

### **Canadian Programming/Gate 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 are designed to "time-out" in the same manner.

If you live in Canada or you are having difficulties programming a gate operator by using the "Programming" procedures (regardless of where you live), **replace "Programming HomeLink" step 3** with the following:

**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.

3. Continue to press and hold the HomeLink button while you **press and release every two seconds** ("cycle") your hand-held transmitter until the frequency signal has successfully been accepted by HomeLink. (The indicator light will flash slowly and then rapidly.) Proceed with "Programming" step four to complete.

### **Using HomeLink**

To operate, simply press and release the programmed HomeLink button. Activation will now occur for the trained device (i.e. garage door opener, gate operator, security system, entry door lock, home/office lighting,

etc.). For convenience, the hand-held transmitter of the device may also be used at any time. In the event that there are still programming difficulties or questions, contact HomeLink at: [www.homelink.com](http://www.homelink.com) or 1-800-355-3515.

### Erasing HomeLink Buttons

To erase programming from the three buttons (individual buttons cannot be erased but can be "reprogrammed" - note below), follow the step noted:

- Press and hold the two outer HomeLink buttons until the indicator light begins to flash-after 20 seconds. Release both buttons. Do not hold for longer than 30 seconds. HomeLink is now in the train (or learning) mode and can be programmed at any time beginning with "Programming" - step 2.

### Reprogramming a Single HomeLink Button

To program a device to HomeLink using a HomeLink button previously trained, follow these steps:

1. Press and hold the desired HomeLink button. **Do NOT** release the button.
2. The indicator light will begin to flash after 20 seconds. Without releasing the HomeLink button, proceed with "Programming" step 2

For questions or comments, contact HomeLink at: [www.homelink.com](http://www.homelink.com) or 1-800-355-3515.

### Security

#### Garage Door Opener Operation with Security Alarm (if equipped)

If your vehicle is equipped with the Security Alarm feature, the operation of the HomeLink feature will be purposely inhibited if the Security Alarm is "Armed". This prevents HomeLink operation due to un-authorized

vehicle entry. HomeLink operation will be re-stored when the Security Alarm has been "Disarmed".

If you sell your vehicle, be sure to erase the frequencies.

To erase all of the previously trained frequencies, hold down both outside buttons until the green light begins to flash.

This device complies with part 15 of FCC rules and with RSS-210 of Industry Canada. Operation is subject to the following conditions:

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

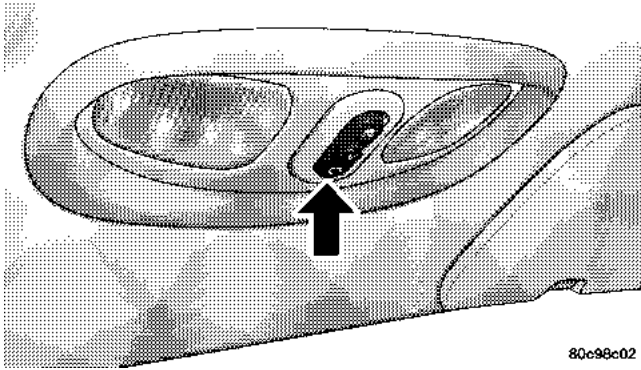
**NOTE:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

HomeLink® is a trademark owned by Johnson Controls, Inc.

### **POWER SUNROOF — IF EQUIPPED**

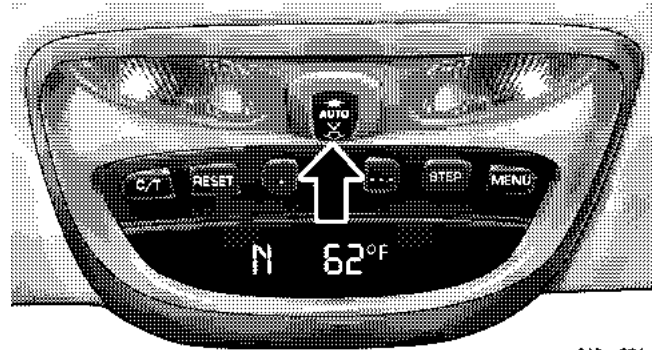
The sunroof control is located on the headliner between the sun visors.

Press and hold the switch rearward to fully open the sunroof. The sunroof can be stopped at any position between closed and full open. Momentarily pressing the switch rearward will activate the Express Open Feature, causing the sunroof to open automatically.



80c98c02

Sunroof Switch (No Console)



810aa974

Sunroof Switch Console

Press and hold the “V” button in the center of the sunroof switch to open the vent. The sunroof can be stopped at any position between closed and full vent. To close the sunroof from the vent position, press and hold the switch forward. Releasing the switch will stop the movement of

the sunroof and the sunroof will remain in the partial vent position until the switch is pushed forward again.

### **Express Open Feature**

During the Express Open operation, any movement of the switch will stop the sunroof and it will remain in a partial open position. Again, momentarily pressing the switch rearward will activate the Express Open Feature.

To close the sunroof, hold the switch in the forward position. Again, any release of the switch will stop the movement and the sunroof will remain in a partial open condition until the switch is pushed forward again. The sunroof is not completely closed until the rear of the sunroof glass moves upward at the end of it's travel.

The sunshade can be opened manually. It will also open as the sunroof opens. The sunshade cannot be closed if the sunroof is open.

### **WARNING!**

- **In an accident, there is a greater risk of being thrown from a vehicle with an open sunroof. You could also be seriously injured or killed. Always fasten your seat belt properly and make sure all passengers are properly secured too.**
- **Do not allow small children to operate the sunroof. Never allow fingers or other body parts, or any object to project through the sunroof opening. Injury may result.**

**WARNING!**

Never leave children alone in a vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Don't leave the keys in the ignition. A child could operate power windows, sunroof, other controls, or move the vehicle.

**Sunroof Maintenance**

Use only a non-abrasive cleaner and a soft cloth to clean the glass panel.

**ELECTRICAL POWER OUTLETS**

This vehicle has two 12V auxiliary power outlets that can provide up to 20 Amps of current for accessories designed for use with standard power outlet adapters. The outlets are located in the instrument panel, below the temperature control setting knob, and the other inside the full - size center console. When the optional Cigar Lighter heating element is used, it heats when pushed in and pops out automatically when ready for use. **To preserve the heating element, do not hold the lighter in the heating position.**

The instrument panel outlet can be reconfigured by the customer to operate only when the ignition is On (switch battery fed) or with the ignition switch On/Off (battery fed) to allow for cellular phone charging and/or operation while the ignition is Off. This can be done by moving the power outlet (switchable) fuse (fuse #22) from the inboard position to the outboard position.

**NOTE:** All accessories connected to these outlets should be removed or turned OFF when the vehicle is not in use to protect the battery against discharge (unless the customer has reconfigured the fuse block to switched battery feed).

### **Electrical Outlet Use With Engine OFF (Battery Fed Configuration)**

#### **CAUTION!**

- Many accessories that can be plugged in draw power from the vehicle's battery, even when not in use (i.e. cellular phones, etc.). Eventually, if plugged in long enough, the vehicle's battery will discharge sufficiently to degrade battery life and/or prevent engine starting.
- Accessories that draw higher power (i.e. coolers, vacuum cleaners, lights, etc.), will discharge the battery even more quickly. Use these only intermittently and with greater caution.
- After the use of high power draw accessories, or long periods of the vehicle not being started (with accessories still plugged in), the vehicle must be driven a sufficient length of time to allow the generator to recharge the vehicle's battery.



## FLOOR CONSOLE — IF EQUIPPED

### Floor Console Features

The Floor Console between the driver's and front passenger's seat has the following features:

- Miscellaneous storage compartments
- Flexible cup holder inserts
- Portable phone storage bin
- Portable phone cord routing between lid and base on forward edge
- 12 Volt power outlet inside storage compartment
- Side open armrest lid
- Tissue holder & pen holder
- Coin slots

The coin slots are located under the instrument panel center stack.

### Storage Compartments

Some miscellaneous storage compartments and cup holders have rubber mats at the bottom, the mats are both removable and dishwasher safe for cleaning purposes. Various storage compartments provide versatile and useful storage. A coin holder is also provided inside the console storage compartment.

### Cup Holders

The cup holders fit a wide variety of cup and bottle sizes. To use the adjustable cup holders (only in automatic transmission vehicles), place your beverage in the cup holder, then adjust the movable arms to tightly hold the beverage.

### **Power Outlet and Portable Phone Storage**

The console is equipped with a power outlet, portable phone storage bin, and phone cord routing. The phone storage bin can be used when easy access to the phone is needed. Also, the power outlet inside console compartment can be used to charge the phone while it is being stored in the bin. To use plug in the portable power recharge cord and place the cord along the slot provided in the left side of the console. Close the console armrest lid and plug the power cord into the phone while resting the phone in the bin. The power outlet may be used for any portable item with a standard 12 volt power plug.

### **Side Open Armrest Lid**

Pressing the button on the left side of the console opens the console armrest lid. The armrest lid will remain open until armrest lid is closed manually by pressing the lid back into place. A penholder is provided on the inside of

the armrest lid. A tissue holder is also provided on the inside of the armrest lid, which holds a pocket size soft pack of tissue.

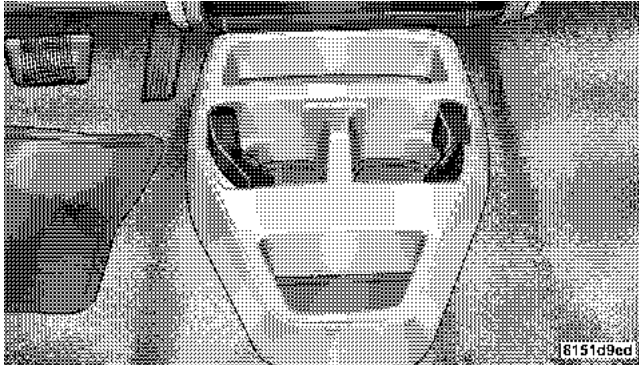
### **CENTER STORAGE COMPARTMENT — IF EQUIPPED**

The center portion of the seat folds down to provide an armrest with unique storage compartments under the lid. Push the button on the armrest to raise the lid. Compartments include a holder which will accommodate five compact disks with finger notches for easier access, a pencil tray, a coin holder, and a large open area for miscellaneous items.

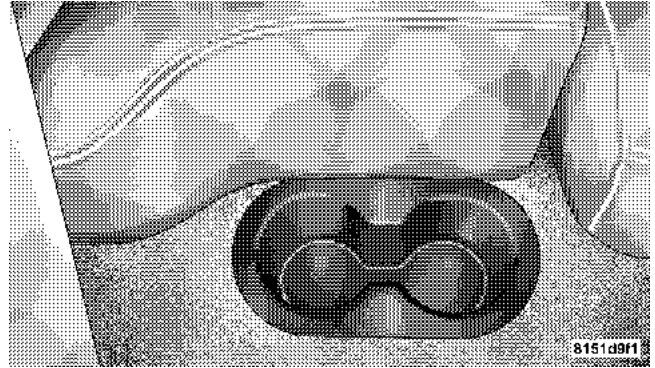
## CUP HOLDERS

If your vehicle has bucket seats with a center console, there are three cup holders located on the console. Refer to the section on floor console.

A two-cavity cup holder is available on all Quad Cab with rear seats mounted on the floor.



Front Cup Holders – Double Cab with Automatic



Rear Cup Holders – Double Cab with Automatic

## REAR WINDOW FEATURES

### Rear Window Defroster – If Equipped

#### CAUTION!

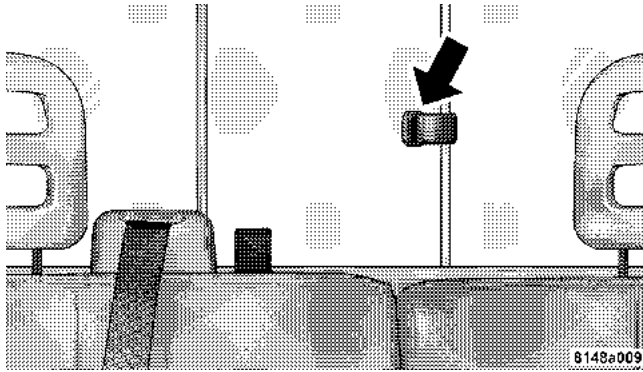
Use care when washing the inside of the rear window to prevent damage to heating elements. Use a soft cloth and a mild washing solution, wiping parallel to the heating elements. Also, keep all objects a safe distance from the window to prevent damaging the heating elements.



A push-button type switch is located on the right side of the control below the A/C (Snowflake) button. Pressing the switch will turn on the Rear Window Defroster and heated mirrors, if equipped. A light above the Rear Window Defroster symbol will illuminate to indicate the Rear Window Defroster is On. Pushing the

button again will turn the Rear Window Defroster Off prior to the time-out. The Rear Window Defroster will turn off automatically after 15 minutes after the first push, 10 minutes after the second push and 5 minutes after the third push and all subsequent pushes of the button (all within the same ignition cycle). To prevent excessive battery drain, use the rear defroster only when the engine is running.

### Sliding Rear Window – If Equipped



#### Sliding Rear Window Latch

A locking device in the center of the window helps to prevent entry from the rear of the vehicle. Squeeze the lock to release the window.

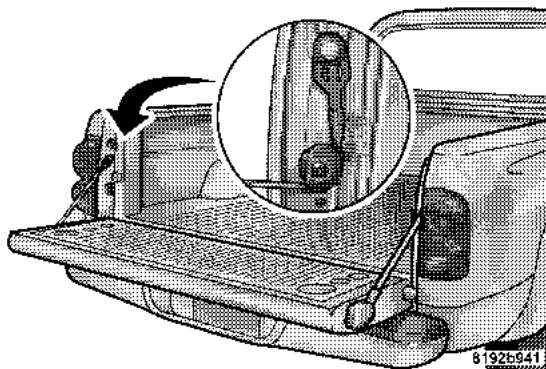
### TAILGATE

#### Tailgate Removal

To simplify mounting a camper unit with an overhang, the tailgate can be removed quickly. Follow these steps:

1. Open the tailgate to a 45° angle.
2. Unclip and remove the cables from the box while maintaining a 45° angle.

**3**



3. Lift the tailgate off of the pivot on the passenger side by pulling upward and rearward at the same time.
4. Slide the tailgate to the passenger side while making sure clearance from the box and taillight is maintained.

To reinstall the tailgate, do the following:

1. Slide the tailgate onto the driver's side pivot.

2. Hold the tailgate at a 45° angle and insert it into the passenger side pivot.

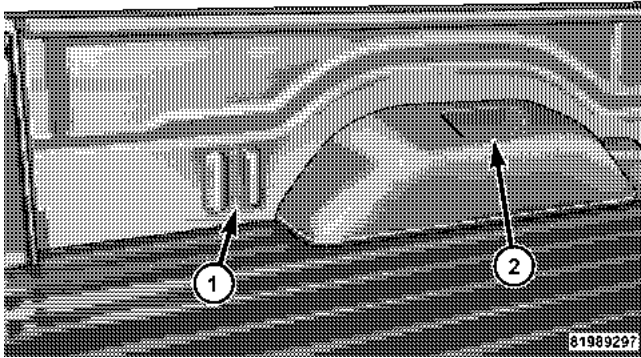
3. Clip the cables to the box.

### **Two Position Tailgate / Upper Load Platform**

Your tailgate can be opened to the full open or the partial open position. The partial open position is for loading objects longer than the length of the bed (sheets of plywood, etc.) by creating an upper load platform:

1. Install lumber

- Place lumber across the box in the indentations provided above the wheel housings and in the bulkhead dividers to form the floor. There are indents in the sheet metal (or bed liner if equipped) on the inner side of the box in front (Club Cab only) and behind both wheel housings.

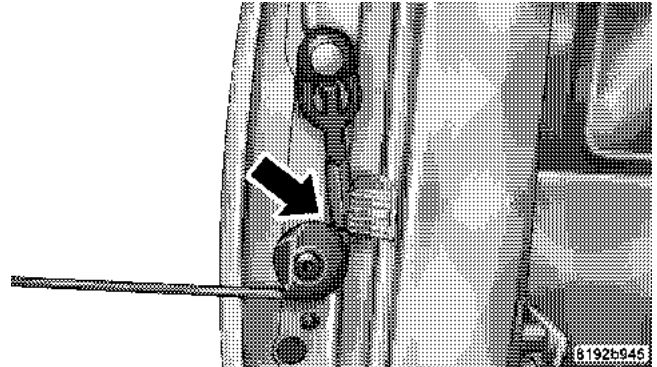


1 — Bulkhead Divider  
2 — Upper Load Floor Indent

2. Secure the tailgate in the partially open position:

- Open the tailgate slightly.

- Snap the tailgate support cable between the cable guide and the tailgate bumper. Do this on both sides of the tailgate.



3

To return the tailgate to the full open position:

- Lift up on the tailgate.

- Remove both cables from between the cable guides and the tailgate bumpers and lower the tailgate.

### CAUTION!

- Care should always be exercised when operating a vehicle with cargo. Vehicle speeds may need to be reduced. Severe turns or rough roads may cause shifting or bouncing of the cargo that may result in vehicle damage.
- Insure the load is securely tied down and is properly identified according to local laws if it extends beyond the taillamps.
- **LOADING** should not exceed 400 lbs (181 kg) of material suspended above the wheelhouse and partially open tailgate or vehicle damage may result.

## SLIDE-IN CAMPERS

### Camper Applications

Certain truck models are not recommended for slide-in campers. To determine if your vehicle is excluded, please refer to the Consumer Information Truck-Camper Loading document located in your Owner's Manual packet or available from your dealer. For safety reasons, follow all instructions on this important document.

### General Information

The Manufacturer's Warranty does not apply to body modifications and special equipment, such as a camper unit, heaters, stoves, refrigerators, etc., supplied by manufacturers other than the manufacturer. For warranty coverage and service on these items, contact the applicable manufacturer.



To mount a camper unit with an overhang, the tailgate can be removed. Unlatch tailgate and remove support cables from the retainer pins. Raise right side of tailgate until the lower right side pivot clears the hanger bracket. Then slide the tailgate to the right to remove.

### **Carbon Monoxide Warning Vehicles Equipped With A Cap or Slide-In Campers**

To avoid inhaling carbon monoxide, which is deadly, the exhaust system on vehicles equipped with “Cap or Slide-In Campers” should extend beyond the overhanging camper compartment and be free of leaks.



# INSTRUMENT PANEL AND CONTROLS

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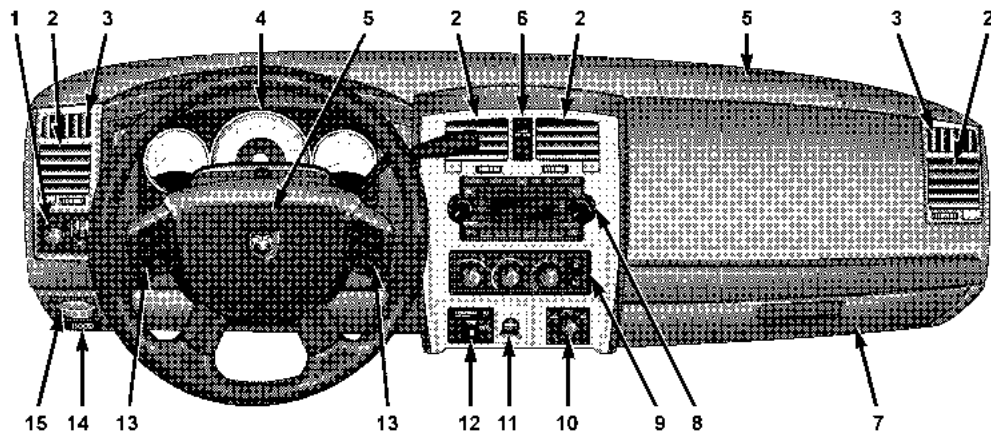
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**INSTRUMENTS AND CONTROLS**



- 1. Headlight Switch
- 2. Air Outlets
- 3. Demister Outlets
- 4. Instrument Cluster
- 5. Airbags
- 6. Passenger Airbag Off Indicator
- 7. Glove Box

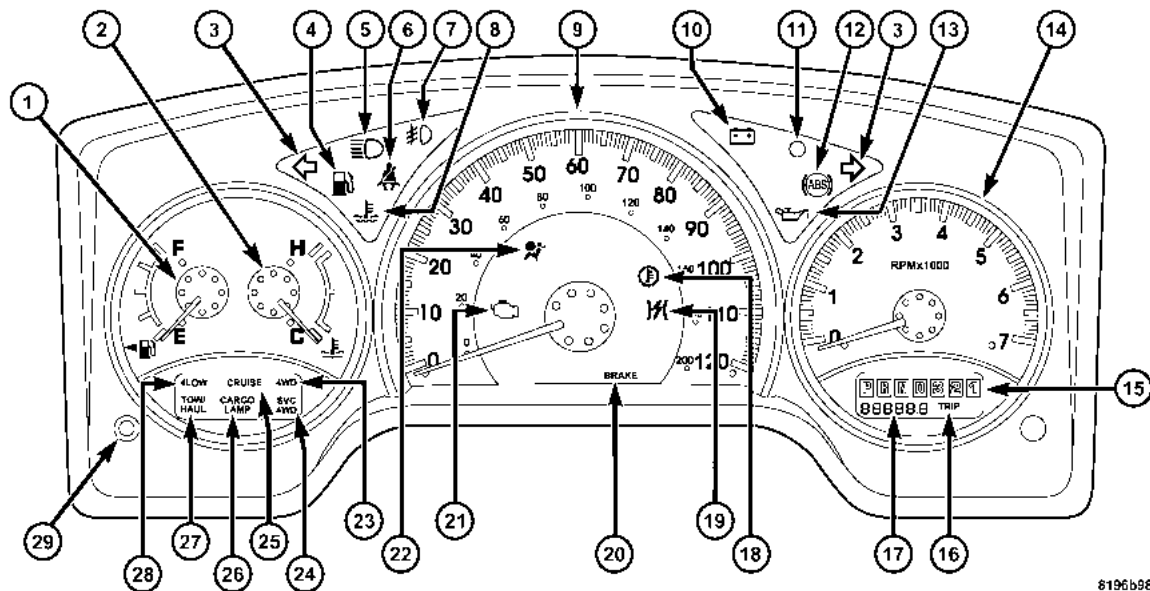
- 8. Radio
- 9. Climate Controls
- 10. Transfer Case Switch\*
- 11. Power Outlet
- 12. Passenger Air Bag On/Off Switch  
(Club Cab Only)
- 13. Speed Control Switches

- 14. Hood Release
- 15. Parking Brake Release

\*If Equipped

817e4966

## INSTRUMENT CLUSTER



8196b982

## INSTRUMENT CLUSTER DESCRIPTION

### 1. Fuel Gauge



The fuel gauge shows level of fuel in tank when ignition switch is in the ON position.

### 2. Temperature Gauge



The temperature gauge indicates engine coolant temperature. Any reading within the normal range indicates that the cooling system is operating satisfactorily. The gauge needle will likely indicate a higher temperature when driving in hot weather, up mountain grades, in heavy traffic, or when towing a trailer. If the needle rises to the "H" mark, stop the vehicle, shift into N (Neutral), and increase engine speed for 2-3 minutes. If the temperature reading does not return to normal, seek authorized service immediately.

## CAUTION!

**Do not leave your vehicle unattended with the engine running as you would not be able to react to the temperature indicator if the engine overheats.**

The gauge pointer will remain near its last reading when the engine is turned off. It will return to a true reading when the engine is restarted.

### 3. Turn Signal Indicators

When a turn signal is activated, a right-pointing or left-pointing arrow lights up and flashes to indicate the direction of the turn. These indicators also indicate proper operation of the front and rear turn signal lights. If either indicator flashes at a faster rate than normal, check for a defective bulb. If either indicator fails to light up when the lever is moved, check for a defective fuse or turn signal LED. A single chime is activated when the



left/right turn signal is left on with the engine RPM vehicle speed greater than 15 mph (24 km/h) for more than one mile.

#### 4. Low Fuel Warning Light



This indicator lights when the fuel gauge reads 1/8 of a tank or less. There is a pointer on the side of this symbol that indicates the side that your fuel filler door is located.

#### 5. High Beam Indicator



Indicates that headlights are on high beam.

#### 6. Seat Belt Reminder Light



This light comes on for several seconds after the ignition is turned ON as a reminder to “buckle up.” This light will remain on as long as the seat belt remains unbuckled. If this light flashes, it indicates a fault in the airbag system. Have the system checked by an authorized dealer.

#### 7. Fog Light Indicator — If Equipped



This light shows when the fog lights are ON.

#### 8. Coolant Temperature Light



This light warns of an overheated engine condition. For a bulb check, this light will come on momentarily when the ignition is turned On. If the light turns on while driving, stop the vehicle, shift into N (Neutral) and increase the engine speed for 2 to 3 minutes. If the temperature reading does not return to normal, seek authorized service immediately.

**CAUTION!**

Driving with a hot engine cooling system could damage your vehicle. If the temperature light is on, safely pull over and stop the vehicle. Idle the vehicle in neutral with the air conditioner turned off until the light turns off. If the light remains on, turn the engine off immediately, and call for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call a service center if your vehicle overheats. If you decide to look under the hood yourself, see Section 7 of this manual. Follow the warnings under the Cooling System Pressure Cap paragraph.

**9. Speedometer**

Shows the vehicles speed.

**10. Voltage Light**

This light monitors the electrical system voltage. The light should turn on momentarily as the engine is started. If the light stays on or turns on while driving, it indicates a problem with the charging system. Immediate service should be obtained.

### 11. Security Light

This light will flash rapidly for approximately 15 seconds when the vehicle theft alarm is arming. The light will flash at a slower speed continuously after the alarm is set. The security light will also come on for about three seconds when the ignition is first turned on.

### 12. ABS Warning Light



This light monitors the Anti-Lock Brake System which is described elsewhere in this manual. This light will come on when the ignition key is turned to the ON position and may stay on for approximately 3 seconds. If this light remains on or comes on during driving, it indicates that the Anti-Lock portion of the brake system is not functioning and that service is required. See your authorized dealer immediately.

### 13. Engine Oil Pressure Indicator Light



This light indicates that the engine oil pressure has become too low. For a bulb check, this light will come on momentarily when the ignition is turned On. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. Immediate service should be obtained.

### 14. Tachometer

This gauge measures engine revolutions-per-minute (rpm x 1000).

### 15. Gear Selector

The electronic gear selector display is self-contained within the instrument cluster. It displays the position of the automatic transmission shift lever, and the relation of each position to all other positions. For a good signal the display will place a box around the selected transmission

range (PRND21). If the PRNDL displays only the characters PRND21 (no boxes), have the system checked by an authorized dealer.

### **16. Trip Odometer**

The trip odometer shows individual trip mileage. To toggle between the odometer and the trip odometer, press the Odometer/Trip Odometer Button. To reset the Trip Odometer, press and hold the button while in trip mode, until the Trip Odometer resets.

Also the cluster will display, replacing the odometer, vehicle warning messages such as: door ajar, low wash, No-fuse, and the outside temperature on vehicles that are not equipped with the Overhead Console with Compass/Temperature Mini-Trip Computer. For additional information, refer to "Compass/Temperature Mini-Trip Computer" in section 3.

If the vehicle diagnostic system determines that the fuel filler cap is loose, improperly installed, or damaged,

GASCAP will be displayed in the instrument cluster. Tighten the fuel filler cap properly and press the odometer reset button to turn the GASCAP message off. If the problem continues, the message will appear the next time the vehicle is started.

### **17. Odometer**

The odometer shows the total distance the vehicle has been driven.

U.S. federal regulations require that upon transfer of vehicle ownership, the seller certify to the purchaser the correct mileage that the vehicle has been driven. Therefore, if the odometer reading is changed during repair or replacement, be sure to keep a record of the reading before and after the service so that the correct mileage can be determined.

### 18. *Transmission Temperature Indicator*



This light indicates that there is excessive transmission fluid temperature that might occur with severe usage such as trailer towing. If this light comes on, stop the vehicle and run the engine at idle or faster, with the transmission in NEUTRAL until the light goes off.

### 19. *Electronic Throttle Control (ETC) – If Equipped*



This light informs you of a problem with the Electronic Throttle Control system. If a problem is detected the light will come on while the engine is running. If the light remains lit with the engine running your vehicle will usually be drivable, however, see your dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required and you may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing. The light will come on when the ignition is first turned on and remain

on for 15 seconds as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

### 20. *BRAKE System Warning Light*

This light will light when the ignition key is turned to the ON position and will remain on for a few seconds. If the light stays on, it may be an indication that the parking brake has not been released, or there is a low brake fluid level. If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction. In this case, the light will remain on until the condition has been corrected. If the parking brake is applied, the light will flash when the gear position is out of park for automatic transmissions.

**If brake failure is indicated, immediate repair is necessary. Operating the vehicle in this condition is dangerous!**

### 21. *Malfunction Indicator Light*



This light is part of an onboard diagnostic system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your dealer for service as soon as possible.

### CAUTION!

**Prolonged driving with the MIL on could cause damage to the engine control system. It also could affect fuel economy and driveability.**

**If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.**

### 22. *Airbag Indicator*



The indicator lights and remains lit for 6 to 8 seconds when the ignition is first turned ON. If the light does not come on when the ignition is first turned on, or the light stays on or comes on while driving, have the airbag system checked by an authorized dealer.

### 23. *4WD Indicator*

Indicates when transfer case is in 4WD position.

#### 24. *SVC (Service) 4WD Indicator*

The SVC 4WD lights will come on when the ignition key is turned to the ON position and will stay on for 2 seconds. If the light stays on or comes on during driving, it means that the 4WD system is not functioning properly and that service is required.

#### 25. *Cruise Light (Speed Control)*

This indicator lights when the electronic speed control system is turned on.

#### 26. *Cargo Lamp*

The Cargo Lamp light will illuminate when the Cargo Lamp is activated from the headlight control switch, located below the headlight switch.

#### 27. *TOW/HAUL*

The TOW/HAUL button is located at the end of the gear shift lever. This light will illuminate when the TOW/HAUL button has been selected.

#### 28. *4WD LOW Indicator*

Indicates transfer case is in 4WD LOW position.

#### 29. *Odometer/Trip Odometer Button*

Press this button to toggle between the odometer and the trip odometer display. Holding the button in resets the trip odometer reading.

### **ELECTRONIC DIGITAL CLOCK**

The clock and radio each use the display panel built into the radio. A digital readout shows the frequency and/or time in hours and minutes (depending on your radio model) whenever the ignition switch is in the "ON" or "ACC" position.

When the ignition switch is in the "OFF" position, or when the radio frequency is being displayed, time keeping is accurately maintained.

On the AM/FM/CD (6-disc) radio the time button alternates the location of the time and frequency on the

display. On the AM/FM/CD (single-disc) radio only one of the two, time or frequency is displayed.

### **Clock Setting Procedure**

1. Press and hold the time button until the hours blink.
2. Adjust the hours by turning the right side Tune / Audio control.
3. After the hours are adjusted, press the right side Tune / Audio control to set the minutes.
4. Adjust the minutes using the right side Tune / Audio control.
5. To exit, press any button/knob or wait approximately 5 seconds.

## **RADIO GENERAL INFORMATION**

### **Radio Broadcast Signals**

Your new radio will provide excellent reception under most operating conditions. Like any system, however, car radios have performance limitations, due to mobile operation and natural phenomena, which might lead you to believe your sound system is malfunctioning. To help you understand and save you concern about these "apparent" malfunctions, you must understand a point or two about the transmission and reception of radio signals.

### **Two Types of Signals**

There are two basic types of radio signals... AM or Amplitude Modulation, in which the transmitted sound causes the amplitude, or height, of the radio waves to vary... and FM or Frequency Modulation, in which the frequency of the wave is varied to carry the sound.



### Electrical Disturbances

Radio waves may pick up electrical disturbances during transmission. They mainly affect the wave amplitude, and thus remain a part of the AM reception. They interfere very little with the frequency variations that carry the FM signal.

### AM Reception

AM sound is based on wave amplitude, so AM reception can be disrupted by such things as lightning, power lines and neon signs.

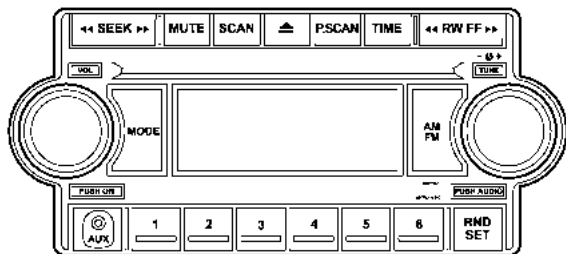
### FM Reception

Because FM transmission is based on frequency variations, interference that consists of amplitude variations can be filtered out, leaving the reception relatively clear, which is the major feature of FM radio.

**NOTE:** The radio, steering wheel radio controls (if equipped), and 6 disc CD/DVD changer (if equipped) will remain active for up to 10 minutes after the ignition switch has been turned off. Opening a vehicle front door will cancel this feature.

## SALES CODE REF — AM/FM/CD (SINGLE DISC) RADIO WITH OPTIONAL SATELLITE RADIO AND HANDS FREE PHONE CAPABILITY

**NOTE:** The radio sales code is located on the lower right side of your radio faceplate.



REF Radio

815eb156

### Operating Instructions - Radio Mode

**NOTE:** The ignition switch must be in the ON or ACC position to operate the radio.

#### Power Switch/Volume Control (Rotary)

Press the ON/VOL control to turn the radio ON. Press the ON/VOL a second time to turn OFF the radio.

#### Electronic Volume Control

The electronic volume control turns continuously (360 degrees) in either direction without stopping. Turning the volume control to the right increases the volume and to the left decreases it.

When the audio system is turned on, the sound will be set at the same volume level as last played.

For your convenience, the volume can be turned down, but not up, when the audio system is off and the ignition is ON.

**Mode Button (Radio Mode)**

Press the mode button repeatedly to select between the CD player and Satellite Radio (if equipped).

**SEEK Button (Radio Mode)**

Press and release the SEEK button to search for the next listenable station in either AM/FM or Satellite (if equipped) mode. Press the right side of the button to seek up and the left side to seek down. The radio will remain tuned to the new station until you make another selection. Holding the button will bypass stations without stopping until you release it.

**MUTE Button (Radio Mode)**

Press the MUTE button to cancel the sound from the speakers. "MUTE" will display. Press the MUTE button a second time and the sound from the speakers will return. Rotating the volume control, turning the radio ON/OFF, or turning ON/OFF the ignition, will cancel the MUTE feature.

**NOTE:** In Hands Free Phone (if equipped) mode, the MUTE button mutes the microphone.

**SCAN Button (Radio Mode)**

Pressing the SCAN button causes the tuner to search for the next listenable station in either, AM, FM, or Satellite (if equipped) frequencies, pausing for 5 seconds at each listenable station before continuing to the next. To stop the search, press SCAN a second time.

**PSCAN Button (Radio Mode)**

Pressing the PSCAN button causes the tuner to scan through preset stations in either, AM, FM, or Satellite (if equipped) frequencies, pausing for 5 seconds at each preset station before continuing to the next. To stop the search, press PSCAN a second time.

**Time Button**

Press the time button and the time of day will display for 5 seconds.

### **Clock Setting Procedure**

1. Press and hold the time button until the hours blink.
2. Adjust the hours by turning the right side Tune/Audio control.
3. After the hours are adjusted, press the right side Tune/Audio control to set the minutes. The minutes will begin to blink.
4. Adjust the minutes using the right side Tune/Audio control.
5. To exit, press any button/knob or wait 5 seconds.

### **RW/FF (Radio Mode)**

Pressing the rewind/fast forward button causes the tuner to search for the next frequency in the direction of the arrows. This feature operates in either AM, FM or Satellite (if equipped) frequencies.

### **TUNE Control (Radio Mode)**

Turn the right side rotary control clockwise to increase or counter-clockwise to decrease the frequency.

### **AM/FM Button (Radio Mode)**

Press the button to select AM or FM Modes.

### **Setting the Tone, Balance, and Fade**

Press the rotary TUNE control and BASS will display. Turn the TUNE control to the right or left to increase or decrease the Bass tones.

Press the rotary TUNE control a second time and MID will display. Turn the TUNE control to the right or left to increase or decrease the Mid Range tones.

Press the rotary TUNE control a third time and TREB will display. Turn the TUNE control to the right or left to increase or decrease the Treble tones.

Press the rotary TUNE control a fourth time and BAL will display. Turn the TUNE control to the right or left to adjust the sound level from the right or left side speakers.

Press the rotary TUNE control a fifth time and FADE will display. Turn the TUNE control to the left or right to adjust the sound level between the front and rear speakers.

Press the tune control again or wait 5 seconds to exit setting tone, balance, and fade.

### **RND/SET Button (Radio Mode) To SET The Push-Button Memory**

When you are receiving a station that you wish to commit to push-button memory, press the SET button. The symbol SET 1 will now show in the display window. Select the button (1-6) you wish to lock onto this station and press and release that button. If a button is not

selected within 5 seconds after pressing the SET button, the station will continue to play but will not be stored into push-button memory.

You may add a second station to each push-button by repeating the above procedure with this exception: Press the SET button twice and SET 2 will show in the display window. Each button can be set for SET 1 and SET 2 in both AM and FM. This allows a total of 12 AM, 12 FM, and 12 Satellite (if equipped) stations to be stored into push-button memory. The stations stored in SET 2 memory can be selected by pressing the push-button twice.

Every time a preset button is used, a corresponding button number will display.

### **Preset Buttons 1 - 6 (Radio Mode)**

These buttons tune the Radio to the stations that you commit to push-button memory {12 AM, 12 FM, and 12 Satellite (if equipped) stations}.

### Operation Instructions - CD Mode

**NOTE:** The ignition switch must be in the ON or ACC position to operate the radio.

#### Inserting The Compact Disc (Single CD Player)

Gently insert one CD into the CD player with the CD label facing up. The CD will automatically be pulled into the CD Player and the CD icon will illuminate on the radio display.

If the volume control is ON, the unit will switch to CD mode and begin to play. The display will show the track number and play time in minutes and seconds. Play will begin at the start of track one.

**NOTE:**

- On some vehicles, you may insert or eject a disc with the radio or ignition switch OFF.

- If you insert a disc with the ignition ON and the radio OFF, the CD will automatically be pulled into the CD Player.
- This radio does not play discs with MP3 tracks.

#### SEEK Button (CD Mode)

Press the right side of the SEEK button for the next track on the CD. Press the left side of the button to return to the beginning of the current track, or return to the beginning of the previous track if the CD is within the first 10 seconds of the current selection.

#### MUTE Button (CD Mode)

Press the MUTE button to cancel the sound from the speakers. "MUTE" will display. Press the MUTE button a second time and the sound from the speakers will return. Rotating the volume control or turning OFF the ignition will also return the sound from the speakers.

**SCAN Button (CD Mode)**

Press this button to play the first 10 seconds of each track. To stop the scan function, press the button a second time.

**EJECT Button (CD Mode)**

Press this button and the disc will unload and move to the entrance for easy removal. The unit will switch to the last selected mode.

If you do not remove the disc within 15 seconds, it will be reloaded. The radio mode will continue to appear.

**TIME Button (CD Mode)**

Press this button to change the display from elapsed CD playing time to time of day. The time of day will display for 5 seconds.

**RW/FF (CD Mode)**

Press and hold the FF (Fast Forward) and the CD player will begin to fast forward until FF is released. The RW (Reverse) button works in a similar manner.

**RND/SET Button (Random Play Button) (CD Mode)**

Press this button while the CD is playing to activate Random Play. This feature plays the selections on the compact disc in random order to provide an interesting change of pace.

Press the SEEK button to move to the next randomly selected track.

Press and hold the FF button to fast forward through the tracks. Release the FF button to stop the fast forward feature. If the RW button is pressed, the current track will reverse to the beginning of the track and begin playing.

Press the RND button a second time to stop Random Play.

**Operation Instructions - Auxiliary Mode**

The auxiliary (AUX) jack is an audio input jack, which allows the user to plug in a portable device such as an MP3 player, cassette player, or microphone and utilize the vehicle's audio system to amplify the source and play through the vehicle speakers.

The auxiliary mode becomes active when an electrical device is plugged into the AUX jack using a standard 3.5 mm stereo audio cable and the user presses and releases the MODE button until AUX appears on the display.

**NOTE:** The radio will return to the last stored mode if the ignition switch is turned from the OFF/LOCK position to the ACC position, the radio is turned on, and the radio was previously in the AUX mode.

**SEEK Button (Auxiliary Mode)**

No function.

**MUTE Button (Auxiliary Mode)**

Press the MUTE button to cancel the sound from the speakers. "MUTE" will display. Press the MUTE button a second time and the sound from the speakers will return. Rotating the volume control or turning OFF the ignition will also return the sound from the speakers.

**SCAN Button (Auxiliary Mode)**

No function.

**EJECT Button (Auxiliary Mode)**

No function.

**PSCAN Button (Auxiliary Mode)**

No function.



**TIME Button (Auxiliary Mode)**

Press this button to change the display from elapsed playing time to time of day. The time of day will display for 5 seconds.

**RW/FF (Auxiliary Mode)**

No function.

**RND/SET Button (Auxiliary Mode)**

No function.

**Mode Button (Auxiliary Mode)**

Press the mode button repeatedly to select between the CD player and Satellite Radio (if equipped).

**Operating Instructions - Hands Free Phone — If Equipped**

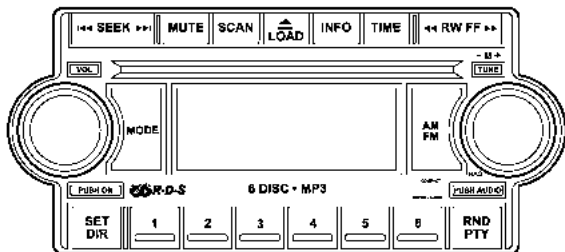
Refer to the “HANDS FREE PHONE (UConnect™)” section of the Owner’s Manual.

**Operating Instructions - Satellite Radio — If Equipped**

Refer to the “Satellite Radio” section of the Owner’s Manual.

## SALES CODE RAQ – AM/FM/CD (6-DISC) RADIO WITH OPTIONAL SATELLITE RADIO, HANDS FREE PHONE, AND VEHICLE ENTERTAINMENT SYSTEMS (VES) CAPABILITIES

**NOTE:** The radio sales code is located on the lower right side of your radio faceplate.



81365bb1

RAQ Radio

### Operating Instructions - Radio Mode

**NOTE:** The ignition switch must be in the ON or ACC position to operate the radio.

#### Power Switch/Volume Control (Rotary)

Press the ON/VOL control to turn the radio ON. Press the ON/VOL a second time to turn OFF the radio.

#### Electronic Volume Control

The electronic volume control turns continuously (360 degrees) in either direction without stopping. Turning the volume control to the right increases the volume and to the left decreases it.

When the audio system is turned on, the sound will be set at the same volume level as last played.

For your convenience, the volume can be turned down, but not up, when the audio system is off and the ignition is ON.

**Mode Button (Radio Mode)**

Press the mode button repeatedly to select between the CD player, Satellite Radio, or Vehicle Entertainment System (VES) (if equipped).

**SEEK Button (Radio Mode)**

Press and release the SEEK button to search for the next listenable station in either AM/FM or Satellite (if equipped) mode. Press the right side of the button to seek up and the left side to seek down. The radio will remain tuned to the new station until you make another selection. Holding the button will bypass stations without stopping until you release it.

**MUTE Button (Radio Mode)**

Press the MUTE button to cancel the sound from the speakers. "MUTE" will be displayed. Press the MUTE button a second time and the sound from the speakers

will return. Rotating the volume control, turning the radio ON/OFF, or turning OFF the ignition will also return the sound from the speakers

**NOTE:** In Hands Free Phone (if equipped) mode, the MUTE button mutes the microphone.

**SCAN Button (Radio Mode)**

Pressing the SCAN button causes the tuner to search for the next listenable station, in either AM, FM or Satellite (if equipped) frequencies, pausing for 5 seconds at each listenable station before continuing to the next. To stop the search, press SCAN a second time.

**MSG or INFO Button (Radio Mode)**

Press the MSG or INFO button for an RBDS station (one with call letters displayed). The radio will return a Radio Text message broadcast from an FM station (FM mode only).

**Time Button**

Press the time button and the time of day will be displayed for 5 seconds.

**Clock Setting Procedure**

1. Press and hold the time button until the hours blink.
2. Adjust the hours by turning the right side Tune / Audio control.
3. After the hours are adjusted, press the right side Tune / Audio control to set the minutes. The minutes will begin to blink.
4. Adjust the minutes using the right side Tune / Audio control.
5. To exit, press any button/knob or wait 5 seconds.

**RW/FF (Radio Mode)**

Pressing the rewind/fast forward button causes the tuner to search for the next frequency in the direction of the arrows. This feature operates in either AM, FM or Satellite (if equipped) frequencies.

**TUNE Control (Radio Mode)**

Turn the right side rotary control clockwise to increase or counter-clockwise to decrease the frequency.

**AM/FM Button (Radio Mode)**

Press the button to select AM or FM Modes.

**Setting the Tone, Balance, and Fade**

Press the rotary TUNE control and BASS will display. Turn the TUNE control to the right or left to increase or decrease the Bass tones.

Press the rotary TUNE control a second time and MID will display. Turn the TUNE control to the right or left to increase or decrease the Mid Range tones.

Press the rotary TUNE control a third time and TREBLE will display. Turn the TUNE control to the right or left to increase or decrease the Treble tones.

Press the rotary TUNE control a fourth time and BALANCE will display. Turn the TUNE control to the right or left to adjust the sound level from the right or left side speakers.

Press the rotary TUNE control a fifth time and FADE will display. Turn the TUNE control to the left or right to adjust the sound level between the front and rear speakers.

Press the rotary TUNE control again to exit setting tone, balance and fade.

#### **RND/PTY Button (Radio Mode)**

Pressing this button once will turn on the PTY mode for 5 seconds. If no action is taken during the 5 second time out the PTY icon will turn off. Pressing the PTY button or

turning the TUNE rotary knob within 5 seconds will allow the program format type to be selected. Many radio stations do not currently broadcast PTY information.

Toggle the PTY button to select the following format types:

Program Type	16 Digit-Character Display
No program type or undefined	None
Adult Hits	Adult_Hits
Alert Alert	Alert Alert
Classical	Classical
Classic Rock	Classic_Rock
College	College
Country	Country
Emergency Test	Emergency Test
Foreign Language	Foreign_Language
Information	Information

Jazz	Jazz
News	News
Nostalgia	Nostalgia
Oldies	Oldies
Personality	Personality
Public	Public
Rhythm and Blues	Rhythm_and_Blues
Religious Music	Religious_Music
Religious Talk	Religious_Talk
Rock	Rock
Soft	Soft
Soft Rock	Soft_Rock
Soft Rhythm and Blues	Soft_R_&_B
Sports	Sports
Talk	Talk
Top 40	Top_40
Weather	Weather

By pressing the SEEK button when the PTY icon is displayed, the radio will be tuned to the next frequency station with the same selected PTY name. The PTY function only operates when in the FM mode.

If a preset button is activated while in the PTY (Program Type) mode, the PTY mode will be exited and the radio will tune to the preset station.

#### **SET/DIR Button (Radio Mode) — To Set the Push-Button Memory**

When you are receiving a station that you wish to commit to push-button memory, press the SET/DIR button. The symbol SET 1 will now show in the display window. Select the button (1-6) you wish to lock onto this station and press and release that button. If a button is not selected within 5 seconds after pressing the SET/DIR button, the station will continue to play but will not be stored into push-button memory.

You may add a second station to each push-button by repeating the above procedure with this exception: Press the SET/DIR button twice and SET 2 will show in the display window. Each button can be set for SET 1 and SET 2 in both AM and FM. This allows a total of 12 AM, 12 FM and 12 Satellite (if equipped) stations to be stored into push-button memory. The stations stored in SET 2 memory can be selected by pressing the push-button twice.

Every time a preset button is used a corresponding button number will be displayed.

### **Buttons 1 - 6 (Radio Mode)**

These buttons tune the Radio to the stations that you commit to push-button memory {12AM, 12 FM, and 12 Satellite (if equipped) stations}.

### **Operation Instructions - (CD MODE for CD Audio Play)**

**NOTE:** The ignition switch must be in the ON or ACC position to operate the radio.

**NOTE:** Note: This Radio is capable of playing compact discs (CD), recordable compact discs (CD-R), rewritable compact discs (CD-RW) compact discs with MP3 tracks and multisession compact discs with CD and MP3 tracks.

### **Inserting Compact Disc(s)**

Gently insert one CD into the CD player with the CD label facing up. The CD will automatically be pulled into the CD Player and the CD icon will illuminate on the radio display.

**CAUTION!**

This CD player will accept 4 3/4 inch (12 cm) discs only. The use of other sized discs may damage the CD player mechanism.

You may eject a disc with the radio OFF.

If you insert a disc with the ignition ON and the radio ON, the unit will switch from radio to CD mode and begin to play when you insert the disc. The display will show the disc number, the track number, and index time in minutes and seconds. Play will begin at the start of track 1.

**SEEK Button (CD MODE for CD Audio Play)**

Press the right side of the SEEK button for the next selection on the CD. Press the left side of the button to return to the beginning of the current selection, or return

to the beginning of the previous selection if the CD is within the first 10 seconds of the current selection.

**MUTE Button (CD MODE for CD Audio Play)**

Press the MUTE button to cancel the sound from the speakers. "MUTE" will be displayed. Press the MUTE button a second time and the sound from the speakers will return. Rotating the volume control, turning the radio ON/OFF, or turning OFF the ignition will also return the sound from the speakers.

**SCAN Button (CD MODE for CD Audio Play)**

Press the Scan button to scan through each track on the CD currently playing.



## LOAD/EJECT Button (CD Mode for CD Audio Play)

### LOAD/ EJECT - Load



Press the LOAD/ EJECT button and the push-button with the corresponding number where the CD is being loaded. The radio will display PLEASE WAIT and prompt when to INSERT DISC. After the radio displays "LOAD DISC" insert the CD into the player.

Radio display will show "LOADING DISC" when the disc is loading, and "READING DISC" when the radio is reading the disc.

### LOAD / EJT - Eject



Press the LOAD/ EJT button and the push-button with the corresponding number where the CD was loaded and the disc will unload and move to the entrance for easy removal.

Radio display will show "EJECTING DISC" when the disc is being ejected and prompt the user to remove the disc.

Press and hold the LOAD/ EJT button for 5 seconds and all CDs will be ejected from the radio.

If you have ejected a disc and have not removed it within 15 seconds, it will be reloaded. If the CD is not removed, the radio will continue to play the non-removed CD. If the CD is removed and there are other CD's in the radio, the radio will play the next CD after a 2 minute timeout. If the CD is removed and there are no other CD's in the radio, the radio will remain in CD mode and display "INSERT DISC" for 10 seconds. If no discs are inserted within 10 seconds "NO DISCS LOADED" will be displayed.

On some vehicles a disc can be ejected with the radio and ignition OFF.

**TIME Button (CD MODE for CD Audio Play)**

Press this button to change the display from a large CD playing time display to a small CD playing time display.

**RW/FF (CD MODE for CD Audio Play)**

Press and hold FF (Fast Forward) and the CD player will begin to fast forward until FF is released or RW or another CD button is pressed. The RW (Reverse) button works in a similar manner.

**TUNE Control (CD MODE for CD Audio Play)**

Pressing the TUNE control allows the setting of the Tone, Fade, and Balance. See Radio Mode.

**AM/FM Button (CD MODE for CD Audio Play)**

Switches the Radio to the Radio mode.

**RND/PTY Button (Random Play Button) (CD MODE for CD Audio Play)**

Press this button while the CD is playing to activate Random Play. This feature plays the selections on the compact disc in random order to provide an interesting change of pace.

Press the SEEK button to move to the next randomly selected track.

Press and hold the FF button to fast forward through the tracks. Release the FF button to stop the fast forward feature.

Press the RND button a second time to stop Random Play.

**Buttons 1 - 6 (CD MODE for CD Audio Play)**

Selects disc positions 1 - 6 for Play/Load/Eject.

### Notes On Playing MP3 Files

The radio can play MP3 files, however, acceptable MP3 file recording media and formats are limited. When writing MP3 files, pay attention to the following restrictions.

### Supported Media (Disc Types)

The MP3 file recording media supported by the radio are CD-ROM, CD-R and CD-RW.

### Supported Medium Formats (File Systems)

The medium formats supported by the radio are ISO 9660 Level 1 and Level 2 and includes the Joliet extension. When reading discs recorded using formats other than ISO 9660 Level 1 and Level 2, the radio may fail to read files properly and may be unable to play the file normally. UDF and Apple HFS formats are not supported.

The radio uses the following limits for file systems:

- Maximum number of directory levels: 15

- Maximum number of files: 255
- Maximum number of folders: 100
- Maximum number of characters in file/folder names:
  - Level 1: 12 (including a separator "." and a 3-character extension)
  - Level 2: 31 (including a separator "." and a 3-character extension)

Multisession disc formats are supported by the radio. Multisession discs may contain combinations of normal CD audio tracks and computer files (including MP3 files). Discs created with an option such as "keep disc open after writing" are most likely multisession discs. The use of multisession for CD audio or MP3 playback may result in longer disc loading times.

### Supported MP3 File Formats

The radio will recognize only files with the \*.mp3 extension as MP3 files. Non-MP3 files named with the \*.mp3 extension may cause playback problems. The radio is designed to recognize the file as an invalid MP3 and will not play the file.

When using the MP3 encoder to compress audio data to an MP3 file, the bit rate and sampling frequencies in the following table are supported. In addition, variable bit rates (VBR) are also supported. The majority of MP3 files use a 44.1 kHz sampling rate and a 192, 160, 128, 96 or VBR bit rates.

MPEG Specification	Sampling Frequency (kHz)	Bit rate (kbps)
MPEG-1 Audio Layer 3	48, 44.1, 32	320, 256, 224, 192, 160, 128, 112, 96, 80, 64, 56, 48, 40, 32
MPEG-2 Audio Layer 3	24, 22.05, 16	160, 128, 144, 112, 96, 80, 64, 56, 48, 40, 32, 24, 16, 8

ID3 Tag information for artist, song title and album title are supported for version 1 ID3 tags. ID3 version 2 is not supported by the radios.

Playlist files are not supported. MP3 Pro files are not supported.

### Playback of MP3 Files

When a medium containing MP3 data is loaded, the radio checks all files on the medium. If the medium contains a lot of folders or files, the radio will take more time to start playing the MP3 files.

Loading times for playback of MP3 files may be affected by the following:

- Media - CD-RW media may take longer to load than CD-R media
- Medium formats - Multisession discs may take longer to load than non-multisession discs
- Number of files and folders - Loading times will increase with more files and folders

To increase the speed of disc loading, it is recommended to use CD-R media and single-session discs. To create a single-session disc, enable the Disc at Once option before writing to the disc.

### Operation Instructions - (CD Mode for MP3 Audio Play)

#### SEEK Button (CD Mode for MP3 Play)

Pressing the right side of the SEEK button plays the next MP3 File. Pressing the left side of the SEEK button plays the beginning of the MP3 file. Pressing the button within the first ten seconds plays the previous file.

#### LOAD/EJECT Button (CD Mode for MP3 Play)

##### LOAD/ EJECT - Load



Press the LOAD/ EJECT button and the push-button with the corresponding number where the CD is being loaded. The radio will display PLEASE WAIT and prompt when to INSERT DISC. After the radio displays "LOAD DISC" insert the CD into the player.

Radio display will show "LOADING DISC" when the disc is loading.

**LOAD / EJECT - Eject**

Press the LOAD/ EJECT button and the push-button with the corresponding number where the CD was loaded and the disc will unload and move to the entrance for easy removal.

Radio display will show "EJECTING DISC" when the disc is being ejected and prompt the user to remove the disc.

If you have ejected a disc and have not removed it within 15 seconds, it will be reloaded. If the CD is not removed, the radio will continue to play the non-removed CD. If the CD is removed and there are other CD's in the radio, the radio will play the next CD after a 2 minute timeout. If the CD is removed and there are no other CD's in the radio, the radio will remain in CD mode and display "INSERT DISC" for 2 minutes. After 2 minutes the radio will go to the previous tuner mode.

**MSG or INFO Button (CD Mode for MP3 Play)**

Press and MSG or INFO button while playing MP3 disc. The radio scrolls through the following TAG information: Song Title, Artist, File Name, and Folder Name (if available).

Press the MSG or INFO button once more to return to "elapsed time" priority mode.

Press and hold the MSG or INFO button while in the message display priority mode or elapsed time display priority mode will display the song title for each file.

**RW/FF (CD Mode for MP3 Play)**

Press the FF side of the button to move forward through the MP3 selection.

**TUNE Control (CD Mode for MP3 Play)**

Pressing the TUNE Control allows the adjustment of Tone, Balance, and Fade.

**AM/FM Button (CD Mode for MP3 Play)**

Switches back to Radio mode.

**RND/ PTY Button (CD Mode for MP3 Play)**

Pressing this button plays files randomly.

**SET/DIR Button (CD Mode for MP3 Play)**

Press the SET/DIR Button to display folders, when playing an MP3 discs that have a file/folder structure. Turn the TUNE control to display available folders or move through available folders. Press the TUNE control to select a folder.

**Buttons 1 - 6 (CD Mode for MP3 Play)**

Selects disc positions 1 - 6 for Play/Load/Eject.

**Operating Instructions - Hands Free Phone (If Equipped)**

Refer to Hands Free Phone in Section 3 of the Owner's Manual.

**Operating Instructions - Satellite Radio Mode (If Equipped)**

Refer to the Satellite Radio section of the Owner's Manual.

**Operating Instructions - Video Entertainment System (VES®) (If Equipped)**

Refer to separate Video Entertainment System (VES®) Guide.

**SATELLITE RADIO — IF EQUIPPED**

Satellite radio uses direct satellite to receiver broadcasting technology to provide clear digital sound, coast to coast. The subscription service provider is Sirius™ Satellite Radio. This service offers over 100 channels of music, sports, news, entertainment, and programming for children, directly from its satellites and broadcasting studios.

## System Activation

**NOTE:** Your vehicle's radio must be on and in satellite mode when the activation process takes place.

To activate your Sirius Satellite Radio service, call the toll-free number 888-539-7474, or visit the Sirius web site at [www.sirius.com](http://www.sirius.com). Please have the following information available when activating your system:

1. The Electronic Serial Number/Sirius Identification Number (ESN/SID).
2. Credit card information.
3. Your Vehicle Identification Number.

## Electronic Serial Number/Sirius Identification Number (ESN/SID)

The Electronic Serial Number/Sirius Identification Number is needed to activate your Sirius Satellite Radio system. To access the ESN/SID, refer to the following steps:

### ESN/SID Access With REF Radios

With the ignition switch in the ACCESSORY position and the radio OFF, press the CD Eject and Time buttons simultaneously for 3 seconds. The first four digits of the twelve-digit ESN/SID number will display. Press the SEEK UP button to display the next four digits. Continue to press the SEEK UP button until all twelve ESN/SID digits display. The SEEK DOWN will page down until the first four digits display. The radio will exit the ESN/SID mode when any other button is pushed, the ignition is turned OFF, or 5 minutes has passed since any button was pushed.



**ESN/SID Access With RAQ and RAK Radios**

With the ignition switch in the ACCESSORY position and the radio OFF, press the CD Eject and TIME buttons simultaneously for 3 seconds. All twelve ESN/SID numbers will display. The radio will exit the ESN/SID mode when any other button is pushed, the ignition is turned OFF, or 5 minutes has passed since any button was pushed.

**ESN/SID Access With REC Navigation Radios**

Please refer to your Navigation User's Manual.

With the ignition in the ACCESSORY position and the radio off, press the CD Eject and Set buttons simultaneously until the 12 digits of the ESN/SID appear on the screen.

**Selecting Satellite Mode in REF, RAQ, and RAK Radios****Selecting Satellite Mode — REF Radio**

Press the MODE button repeatedly until the word "SAT" appears in the display.

A CD may remain in the radio while in the Satellite radio mode.

**Selecting Satellite Mode — RAQ and RAK Radio**

Press the MODE button repeatedly until the word "SAT" appears in the display.

These radios will also display the current station name and program type. For more information, such as song title and artist press the MSG or INFO button.

A CD or tape may remain in the radio while in the Satellite radio mode.

### Selecting a Channel

Press and release the SEEK or TUNE knob to search for the next channel. Press the top of the button to search up and the bottom of the button to search down. Holding the TUNE button causes the radio to bypass channels until the button is released.

Press and release the SCAN button (if equipped) to automatically change channels every 7 seconds. The radio will pause on each channel for 7 seconds before moving on to the next channel. The word "SCAN" will appear in the display between each channel change. Press the SCAN button a second time to stop the search.

**NOTE:** Channels that may contain objectionable content can be blocked. Contact Sirius Customer Care at 888-539-7474 to discuss options for channel blocking or unblocking. Please have your ESN/SID information available.

### Storing and Selecting Pre-Set Channels

In addition to the 12 AM and 12 FM pre-set stations, you may also commit 12 satellite stations to push button memory. These satellite channel pre-set stations will not erase any AM or FM pre-set memory stations. Follow the memory pre-set procedures that apply to your radio.

### Using the PTY (Program Type) Button (if equipped)

Follow the PTY button instructions that apply to your radio.

### PTY Button "SCAN"

When the desired program type is obtained, press the "SCAN" button within five seconds. The radio will play 7 seconds of the selected channel before moving to the next channel of the selected program type. Press the "SCAN" button a second time to stop the search.

**NOTE:** Pressing the "SEEK" or "SCAN" button, while performing a music type scan, will change the channel by

one and stop the search. Pressing a pre-set memory button during a music type scan, will call up the memory channel and stop the search.

### **PTY Button "SEEK"**

When the desired program is obtained, press the "SEEK" button within five seconds. The channel will change to the next channel that matches the program type selected.

### **Satellite Antenna**

To ensure optimum reception, do not place items on the roof around the rooftop antenna location. Metal objects placed within the line of sight of the antenna will cause decreased performance. Larger luggage items should be placed as far forward as possible. Do not place items directly on or above the antenna.

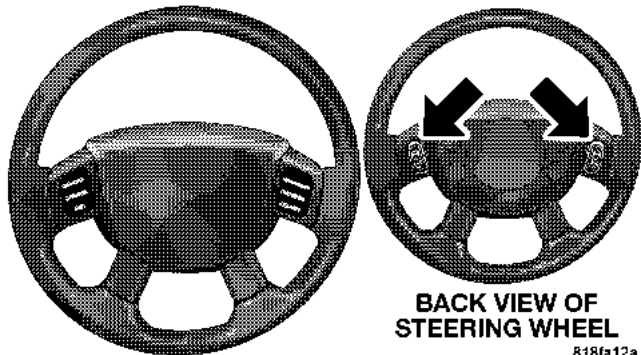
### **Reception Quality**

Satellite reception may be interrupted due to one of the following reasons.

- The vehicle is parked in an underground parking structure or under a physical obstacle.
- Dense tree coverage may interrupt reception in the form of short audio mutes.
- Driving under wide bridges or along tall buildings can cause intermittent reception.
- Placing objects over or too close to the antenna can cause signal blockage.

## REMOTE SOUND SYSTEM CONTROLS — IF EQUIPPED

The remote sound system controls are located on the rear surface of the steering wheel. Reach behind the wheel to access the switches.



The right hand control is a rocker type switch with a push button in the center. Pressing the top of the switch will increase the volume and pressing the bottom of the switch will decrease the volume.

The button located in the center of the right hand control will switch modes to Radio or CD.

The left hand control is a rocker type switch with a push button in the center. The function of the left hand control is different depending on which mode you are in.

The following describes the left hand control operation in each mode.

### Radio Operation

Pressing the top of the switch will SEEK up for the next listenable station and pressing the bottom of the switch will SEEK down for the next listenable station.

The button located in the center of the left hand control will tune to the next pre-set station that you have programmed in the radio pre-set push-buttons.

### **CD Player**

Pressing the top of the switch once will go to the next track on the CD. Pressing the bottom of the switch once will go to the beginning of the current track or to the beginning of the previous track if it is within one second after the current track begins to play.

If you press the switch up or down twice it plays the second track, three times, it will play the third, etc.

The button in the center of the left hand switch changes CD's on the 6-Disc in-dash CD changer radio. This button does not function for all other radios.

### **COMPACT DISC MAINTENANCE**

To keep the compact discs in good condition, take the following precautions:

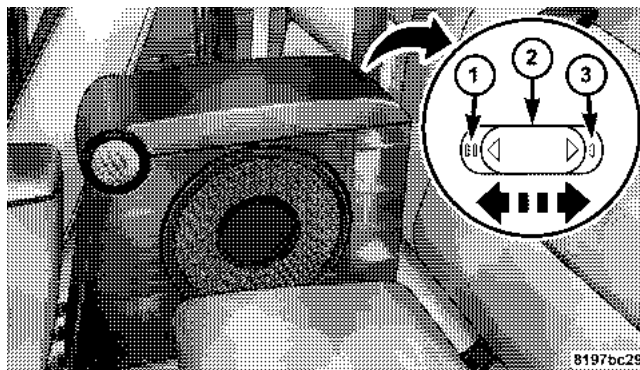
1. Handle the disc by its edge; avoid touching the surface.
2. If the disc is stained, clean the surface with a soft cloth, wiping from center to edge.
3. Do not apply paper or tape to the disc; avoid scratching the disc.
4. Do not use solvents such as benzine, thinner, cleaners, or antistatic sprays.
5. Store the disc in its case after playing.
6. Do not expose the disc to direct sunlight.
7. Do not store the disc where temperatures may become too high.

**NOTE:** If you experience difficulty in playing a particular disc, it may be damaged (i.e. scratched, reflective coating removed, a hair, moisture or dew on the disc) oversized, or have theft protection encoding. Try a known good disc before considering disc player service.

### SOUND BOX OPERATION

The Sound Box includes one subwoofer, two tweeters and lights that pulsate with the music.

The lights can be either be turned off, on constantly or pulse with the beat of the music. To control the lights, select one of the following three positions:



Switch Position	Light Operation
1	Constant (left) position — In this position the sound is active and the lights will remain on constantly.
2	Pulse off / light off (center) position — In this position the sound is active but the lights will be turned off.
3	Pulse (right) position — In this position the sound is active and the lights will pulse with the music.

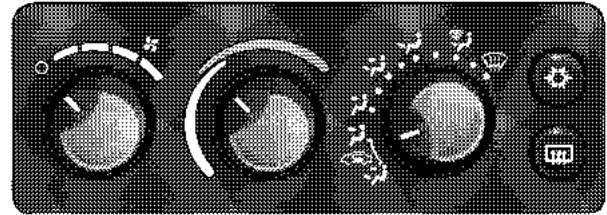
## RADIO OPERATION AND CELLULAR PHONES

Under certain conditions, the cellular phone being ON in your vehicle can cause erratic or noisy performance from your radio. This condition may be lessened or eliminated by relocating the cellular phone antenna. This condition is not harmful to the radio. If your radio performance does not satisfactorily "clear" by the repositioning of the antenna, it is recommended that the radio volume be turned down or off during cellular phone operation.

## CLIMATE CONTROLS

The controls for the heating, ventilation and air conditioning system in this vehicle consist of a series of rotary knobs. These comfort controls can be set to obtain desired interior conditions.

## Air Conditioning And Heater



4

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## Air Conditioning And Heater Operation

To turn on the Air Conditioning, set the fan control at any speed and press the snowflake button located at the right of the control panel. Conditioned air will be directed through the outlets selected by the mode control. A light

at the top of the snowflake button shows that the air conditioning is on. Press the button a second time to turn the air conditioning off.

Slight changes in engine speed or power may be noticed when the air conditioning compressor is on. This is a normal occurrence as the compressor will cycle on and off to maintain comfort and increase fuel economy.



Mode Control

**NOTE:** To improve your selection choices, the system allows you to operate at intermediate positions between the major modes. These intermediate positions are identified by the small dots.

The mode control (at the right of the control panel) can be set in any of the following positions:

### Recirculation Modes (Panel or Bi-Level )




Select the recirculation modes when the outside air contains dust, odors, high humidity, or if rapid cooling is desired. This feature allows for recirculation of interior air only. Air flows through either the panel outlets or both the panel and floor outlets, together, depending which recirculation mode is selected.


### Panel (Fresh Air Modes)

 Outside air flows through the outlets located in the instrument panel.

### Bi-Level

 Outside air flows through the outlets located in the instrument panel and at the floor.

### Floor

 Outside air flows primarily through the floor outlets located under the instrument panel.



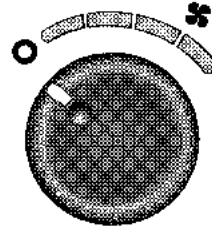
**Mix**

Outside air flows in equal proportions through the floor and defroster outlets.

**Defrost**

Outside air is primarily directed to the windshield through the defroster outlets located at the base of the windshield, and the demister outlets located at the edge of each side of the instrument panel.

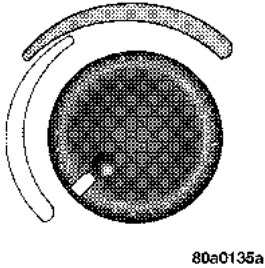
**NOTE:** The air conditioner compressor operates in both Mix and Defrost or a blend of these modes, even if the A/C button has not been pressed. This dehumidifies the air to help dry the windshield.

**Blower Control**

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The rotary knob on the left of the control panel is the blower control. Turn the knob clockwise to one of the four positions to obtain the blower speed you desire. To turn the blower off, turn the knob to the far left position.

## Temperature Control



The rotary knob at the center of the control panel controls the temperature of the interior air. You can choose your degree of comfort by rotating the knob. The coldest temperature setting is to the extreme left (blue region) and the warmest setting is to the extreme right (red region) of

the rotation.

## Circulation

The cab is designed with features to promote outside air circulation. There are grilles in the cab back panel. These are air exhausters that provide the means for regular exchange of cab air.

Side window demisters direct air flow specifically to the window glass to help prevent interior fogging of the glass. They are located in the extreme outside upper edges of the instrument panel. The demisters also provide extra air ducts for circulation. They are in operation whenever the Floor, Mix, Defrost, or Bi-Level modes are in use.

**NOTE:** When you turn off the engine you may hear a hissing sound from under the hood for a short period of time. This is a normal condition that occurs if the air conditioning system has been on. It is not an indication of a problem with the air conditioning system.

## Operating Tips

### Fast Cooldown

For a fast cooldown, open the windows and turn the blower fan rotary knob to the extreme right position, turn the mode control to the panel fresh position, press the snowflake button to turn on the air conditioning, and

drive with the windows open for the first few minutes. Once the hot air has been expelled, close the windows and turn the mode selector to the Recirculation Panel Mode or Recirculation Mode Bi-level position. When a comfortable condition has been reached, choose a mode position and adjust the temperature control knob and blower speed as necessary to maintain comfort. For high humidity conditions it may be necessary to remain in the Recirculation mode to maintain comfort.

### **Window Fogging**

Windows will fog on the inside when the humidity inside the vehicle is high. This often occurs in mild or cool temperatures when it's rainy or humid. In most cases turning on the Air-conditioning (pressing the snowflake button) will clear the fog. Adjust the temperature control,

air direction and blower speed to maintain comfort.

As the temperature gets colder it may be necessary to direct air onto the windshield by using MIX Mode position on the control. Adjust the temperature control and blower speed to maintain comfort. High blower speeds will reduce fogging. Interior fogging on the windshield can be quickly removed by selecting the defrost mode.

Regular cleaning of the inside of the windows with a non-filming cleaning solution (vinegar and water works very well) will help prevent contaminants (cigarette smoke, perfumes, etc.) from sticking to the windows. Contaminates on the inside of windows can increase the rate of window fogging.

### **Summer Operation**

Air conditioned vehicles must be protected with a high quality antifreeze coolant during summer to provide proper corrosion protection and to raise the boiling point of the coolant for protection against overheating. A 50% concentration of engine coolant to distilled water is recommended. See "Cooling System" in the Maintaining Your Vehicle section of your Owner's Manual.

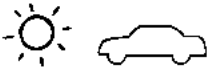


























When using the air conditioner in extremely heavy traffic in hot weather especially when towing a trailer, additional engine cooling may be required. If this situation is

encountered, operate the transmission in a lower gear. When stopped in heavy traffic, it may be necessary to shift into NEUTRAL and depress the accelerator slightly for fast idle operation.

### **Winter Operation**

When operating the system during the winter months, make sure the air intake, located directly in front of the windshield, is free of ice, slush, snow, or other obstructions. This will help prevent snow going into the ducts.

## Operation Tips Chart

WEATHER	CONTROL SETTINGS
<p>HOT WEATHER AND VEHICLE INTERIOR IS VERY HOT</p> 	<p>Start the vehicle, open the windows and turn the blower control knob to the high position (full clockwise). Set Mode control knob at or between  and . Set temperature control to full cold and press the  button on. After the hot air has been expelled, close the windows and turn the mode control knob to the  setting (counterclockwise) at either  or , or press the  button (if so equipped). Once comfortable, choose a mode position and adjust temperature control and blower speed as necessary for comfort.</p>
<p>WARM WEATHER</p> 	<p>If sunny, set the Mode control at or near  and press the  button on. If cloudy or dark, set the Mode control at or near . No  is necessary.</p>
<p>COOL OR COLD HUMID CONDITIONS</p> 	<p>If sunny, set the Mode control at or between  and , then press the  button on. If cloudy or dark set the Mode control at or near . No  is necessary.</p>
<p>COLD DRY CONDITIONS</p> 	<p>In cloudy or dark weather set the Mode control at or near . If sunny, set the Mode control at or between  and  and for snowy or very cold weather requiring extra heat to the windshield, use .</p>
<p>WINDOW FOGGING</p>	<p>In most cases turning on the Air-Conditioning (press the  button) will clear the fog, then adjust temperature control, air direction and blower speed to maintain comfort. As it gets colder it may be necessary to direct air onto the windshield. If so, set the Mode control at  or  and adjust temperature control and blower speed to maintain comfort. Higher blower speeds will reduce fogging.</p>

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# STARTING AND OPERATING

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## STARTING PROCEDURES

The starter should not be operated for more than 15 second intervals. Waiting a few seconds between such intervals will protect the starter from overheating.

### WARNING!

Be sure to turn off the engine if you want to rest or sleep in your car. Accidents can be caused by inadvertently moving the gear selection lever or by pressing the accelerator pedal. This may cause excessive heat in the exhaust system, resulting in overheating and vehicle fire which may cause serious or fatal injuries.

### WARNING!

Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.

### Manual Transmission

Apply the parking brake, place the gearshift control lever in NEUTRAL and depress clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is depressed.

### Automatic Transmission

Start the engine with the shift lever in NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

### Normal Starting

Normal starting of either a warm or cold engine is obtained without pumping or depressing the accelerator pedal. Turn the key to the START position and release when the engine starts. If the engine fails to start within 10 seconds, turn the key to the OFF position, wait 5 seconds, then repeat the starting procedure.

**NOTE:** This vehicle is equipped with a transmission shift interlocking system. The brake pedal must be depressed to shift out of Park (P).

### If Engine Fails To Start

If the engine fails to start after you have followed the normal starting procedure, it may be flooded. Push the accelerator pedal all the way to the floor and hold it there while cranking the engine. This should clear any excess fuel in case the engine is flooded.

### CAUTION!

To prevent damage to the starter, do not crank the engine for more than 15 seconds at a time. Wait 10 to 15 seconds before trying again.

### WARNING!

Never pour fuel or other flammable liquids into the throttle body air inlet opening in an attempt to start the vehicle. This could result in a flash fire causing serious personal injury.

**WARNING!**

Do not attempt to push or tow your vehicle to get it started. Vehicles equipped with an automatic transmission cannot be started this way. Unburned fuel could enter the catalytic converter and once the engine has started, ignite and damage the converter and vehicle. If the vehicle has a discharged battery, booster cables may be used to obtain a start from a booster battery or the battery in another vehicle. This type of start can be dangerous if done improperly. See section 6 of this manual for the proper jump starting procedures and follow them carefully.

If the engine has been flooded, it may start to run, but not have enough power to continue running when the key is

released. If this occurs, continue cranking with the accelerator pedal pushed all the way to the floor. Release the accelerator pedal and the key once the engine is running smoothly.

If the engine shows no sign of starting after two 15 second periods of cranking with the accelerator pedal held to the floor, the normal starting procedure should be repeated.

**After Starting**

The idle speed is automatically controlled and will decrease as the engine warms up.

**Engine Block Heater — If Equipped**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the cord to a standard 110-115 volt AC electrical outlet with a grounded, three wire extension cord.

The engine block heater cord is located at the right front of the engine compartment for all engine applications.

**WARNING!**

Remember to disconnect the cord before driving. Damage to the 110-115 volt electrical cord could cause electrocution.

**AUTOMATIC TRANSMISSION**

**CAUTION!**

Damage to the transmission may occur if the following precautions are not observed:

- Shift into PARK only after the vehicle has come to a complete stop.
- Shift into or out of REVERSE only after the vehicle has come to a complete stop and the engine is at idle speed.
- Do not shift from REVERSE, PARK, or NEUTRAL into any forward gear when the engine is above idle speed.
- Before shifting into any gear, make sure your foot is firmly on the brake pedal.

**WARNING!**

It is dangerous to shift the selector lever out of "P" or "N" if the engine speed is higher than idle speed. If your foot is not firmly on the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and when your right foot is firmly on the brake pedal.

**Brake/Transmission Interlock System**

This system prevents you from moving the gear shift out of Park and into any gear unless the brake pedal is pressed. This system is active only while the ignition switch is in the ON position. Always depress the **brake pedal first**, before moving the gear selector out of PARK.

**Automatic Transmission**

The electronic PRNDL on the instrument cluster indicates the transmission gear selected. The selector lever is mounted on the right side of the steering column. To drive, move the selector lever from Park or Neutral to the desired drive position. Pull selector lever toward you when shifting into Reverse, Second, First or Park, or when shifting out of Park.

**Gear Ranges**

DO NOT race the engine when shifting from Park or Neutral position into another gear range.

***"P" Park***

Supplements parking brake by locking the transmission. Engine can be started in this range. Never use Park while vehicle is in motion. Apply parking brake when leaving vehicle in this range. Always apply parking brake first, then place selector in Park position.

**WARNING!**

Your vehicle could move and injure you and others if it is not completely in P (Park). Check by trying to move the gearshift lever back and forth without first pulling the lever toward you, after you have set it in P (Park). Make sure it is in Park before leaving the vehicle.

**WARNING!**

Never use Park position on an automatic transmission as a substitute for the parking brake. Always apply parking brake fully when parked to guard against vehicle movement and possible injury or damage.

**WARNING!**

It is dangerous to shift the selector lever out of "P" or "N" if the engine speed is higher than idle speed. If your foot is not firmly on the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and when your right foot is firmly on the brake pedal.



***“R” Reverse***

Use this range only after the vehicle has come to a complete stop.

***“N” Neutral***

Shift to Neutral when vehicle is standing for prolonged periods with engine running. Engine may be started in this range. Set the parking brake if you must leave the vehicle.

***“D” Drive***

For most city and highway driving.

***“2” Second***

For driving slowly in heavy city traffic or on mountain roads where more precise speed control is desirable. Use it also when climbing long grades, and for engine braking when descending moderately steep grades. To prevent excessive engine speed do not exceed 45 miles per hour (72 km/h) in this range.

***“1” First***

For driving up very steep hills and for engine braking at low speeds 25 mph (40 km/h) or less when going down hill. To prevent excessive engine speed do not exceed 25 mph (40 km/h) in this range.

**Overdrive Operation**

The overdrive automatic transmission contains an electronically controlled fourth and fifth (if equipped) speed (Overdrive). The transmission will automatically shift from Drive to Overdrive if the following conditions are present:

- the transmission selector is in Drive;
- the engine coolant has reached normal operating temperature;
- vehicle speed is above approximately 30 mph (48 km/h);
- the “TOW/HAUL” switch has not been activated;

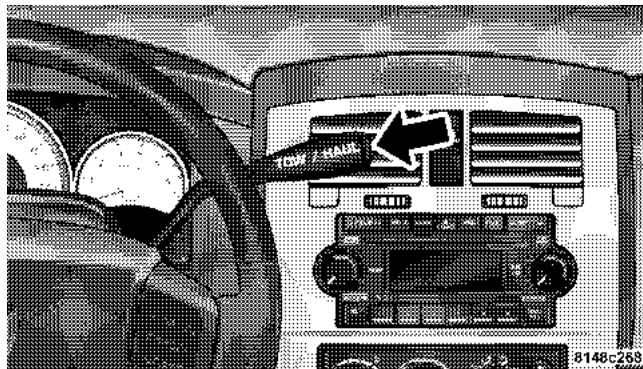
- transmission has reached normal operating temperature.

**NOTE:** If the vehicle is started in extremely cold temperatures, the transmission may not shift into Overdrive and will automatically select the most desirable gear for operation at this temperature. Normal operation will resume when the transmission fluid temperature has risen to a suitable level. Refer also to the Note under torque converter clutch, later in this section.

If the transmission temperature gets extremely hot, the transmission will automatically select the most desirable gear for operation at this temperature. If the transmission temperature becomes hot enough the TRANS TEMP light may illuminate and the transmission may downshift out of Overdrive until the transmission cools down. After cooldown, the transmission will resume normal operation.

The transmission will downshift from Overdrive to Drive if the accelerator pedal is fully depressed at vehicle speeds above approximately 35 mph (56 km/h).

### When To Use "TOW/HAUL" Mode



When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, press the "TOW/HAUL" button. This will improve

performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in "TOW/HAUL" mode, 5th gear (if equipped) is disabled and 2-3 and 3-4 shift patterns are modified. Shifts into Overdrive (4th gear) are allowed during steady cruise (for improved fuel economy) and automatic closed-throttle downshifts to 3rd gear (for improved braking) will occur during steady braking.

The "TOW/HAUL" light will illuminate in the instrument cluster to indicate when the switch has been activated. Pressing the switch a second time restores normal operation. If the "TOW/HAUL" mode is desired, the button must be pressed each time the engine is started.

### **Torque Converter Clutch**

A feature designed to improve fuel economy is included in all automatic transmissions. A clutch within the torque converter engages automatically at a calibrated speed at

light throttle. It engages at higher speeds under heavier acceleration. This may result in a slightly different feeling or response during normal operation in high gear. When the vehicle speed drops below a calibrated speed, or during acceleration, the clutch automatically and smoothly disengages. The feature is operational in Overdrive and in Drive.

**NOTE:** The torque converter clutch will not engage until the transmission fluid and engine coolant are warm [usually after 1-3 miles (1.6 - 4.8 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting into Overdrive when cold. This is normal. Pressing the "TOW/HAUL" button, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Overdrive.

**NOTE:** If the vehicle has not been driven in several days, the first few seconds of operation after shifting the

transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not cause damage to the transmission. The torque converter will refill within five seconds of shifting from Park into any other gear position.

## MANUAL TRANSMISSION

### WARNING!

**You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.**

This model is equipped with a clutch interlocking ignition system. The clutch pedal must be fully depressed to start the vehicle.

Fully depress the clutch pedal before shifting gears. As you release the clutch pedal, lightly depress the accelerator pedal. When launching a stationary vehicle, keep the engine speed low until the clutch is fully engaged.

**NOTE:** Always launch in first gear. Damage to the clutch can result from launching in 2nd gear or 3rd gear. Use each gear in numerical order, do not skip a gear.

When shifting from 5th to 6th gear, do not apply excessive knob load toward the Reverse gear gate, as you may overpower Reverse crash-through load and unintentionally clash into Reverse gear. Also, when shifting from 6th to 5th gear, excessive knob load toward the Reverse gear gate will result in blocking of the shift.

To shift into Reverse, come to a complete stop. Depress the clutch and pause briefly to allow the gear train to stop. Reverse has a "crash-through" lockout feature. In order to get into the reverse gate you should start in neutral 3/4 and move rapidly into the reverse gate in one swift motion. If you move slowly toward reverse you will encounter a very high load which makes it difficult to enter the gate.

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

### Recommended Shift Speeds

To use your manual transmission for fuel economy it should be upshifted as listed below. Shift at the vehicle speeds listed for acceleration. Earlier upshifts during cruise conditions (relatively steady speeds) will result in increased fuel economy, and may be used as indicated.

Higher upshift speeds may be used to obtain a desired acceleration rate.

6 Speed Manual Transmission Shift Speed in mph (km/h)								
En- gine	Model	Axle	Accel- eration Rate	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6
3.7L	ALL	3.21 & 3.55	ACCEL & CRUISE	15 (24) 10 (16)	24 (39) 19 (31)	34 (55) 27 (44)	47 (76) 37 (60)	56 (90) 41 (66)
4.7L	All	3.21 & 3.55	ACCEL & CRUISE	15 (24)	25 (40)	40 (65)	45 (72)	50 (81)

### Downshifting

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. For acceleration at speeds less than 20 mph (30 km/h), 2nd gear is recommended.

#### CAUTION!

When descending a hill, be very careful to downshift one gear at a time to prevent overspeeding the engine which can cause valve damage.

To prevent clutch and transmission damage, your vehicle should be downshifted at speeds no greater than those listed in the Maximum Recommended Downshifting Speed chart.

### Maximum Recommended Downshifting Speeds

Gear Selection	1st	2nd	3rd	4th	5th
Maximum Speed	20 mph (32 km/h)	35 mph (56 km/h)	55 mph (88 km/h)	75 mph (120 km/h)	85 mph (135 km/h)

#### CAUTION!

Failure to follow the recommended downshifting speeds may cause the engine to over speed and / or damage the clutch disc even if the clutch pedal is depressed.

## FOUR-WHEEL DRIVE OPERATION

### NV233/243 GII Transfer Case Operating Information/Precautions

The NV233/243 is an electric shift transfer case and is operated by the 4WD Control Switch (Transfer Case Switch), which is located on the instrument panel.

The NV233/243 transfer case provides 4 mode positions: 2 (rear) wheel drive high range, 4 wheel drive high range, 4 wheel drive low range, and neutral.

The NV233/243 transfer case is designed to be driven in the 2 wheel drive position (2WD) for normal street and highway conditions (dry hard surfaced roads).

When additional traction is required, the transfer case 4WD LOCK and 4WD LOW positions can be used to lock the front and rear driveshafts together and force the front and rear wheels to rotate at the same speed. This is accomplished by rotating the 4WD Control Switch to the

desired position - see Shifting Procedure section for specific shifting instructions. The 4WD LOCK and 4WD LOW positions are designed for loose or slippery road surfaces only. Driving in the 4WD LOCK and 4WD LOW positions on dry hard-surfaced roads may cause increased tire wear and damage to the driveline components.

The transfer case Neutral (N) position is selected by depressing the recessed button located on the lower left hand corner of the 4WD Control Switch.

**NOTE:** The transfer case Neutral (N) position is to be used for recreational towing only. See Recreational Towing section for specific procedures on shifting into and out of Neutral (N).

### Transfer Case Position Indicator Lights

Transfer case position indicator lights are located on the instrument cluster. If there is no indicator light on or flashing, the transfer case position is two-wheel drive

(2WD). If the indicator light is on, the desired position (4WD LOCK and 4WD LOW) has been obtained.

**If One or More Shift Requirements are not Met:**

1. An indicator light will flash.
2. The transfer case **will not** shift.

**NOTE:** Before retrying a selection, make certain that all the necessary requirements for selecting a new transfer case position have been met. To retry the selection, turn the control knob back to the current position, wait five (5) seconds, and retry selection. To find the shift requirements, refer to the "Shifting Procedure" for your transfer case, located in this section of the owner's manual.

The "SVC 4WD" warning light monitors the electric shift 4WD system. If this light remains on after engine start up or illuminates during driving, it means that the 4WD system is not functioning properly and that service is required.

**WARNING!**

Always engage the parking brake when powering down the vehicle if the "SVC 4WD" light is illuminated. Not engaging the parking brake may allow the vehicle to roll, which may cause personal injury.

**NOTE:** Do not attempt to make a shift while only the front or rear wheels are spinning. The NV233/243 transfer case is not equipped with a synchronizer and therefore the front and rear driveshaft speeds must be equal for the shift to take place. Shifting while only the front or rear wheels are spinning can cause damage to the transfer case.

When operating your vehicle in 4WD LOW, the engine speed is approximately three times that of the 2WD or



4WD LOCK positions at a given road speed. Take care not to overspeed the engine and do not exceed 25 mph (40 km/h).

Proper operation of 4 wheel drive vehicles depends on tires of equal size, type and circumference on each wheel. Any difference in tire size can cause damage to the transfer case.

Because 4 wheel drive provides improved traction, there is a tendency to exceed safe turning and stopping speeds. Do not go faster than road conditions permit.

### WARNING!

**You or others could be injured if you leave the vehicle unattended with the transfer case in the Neutral (N) position without first fully engaging the parking brake. The transfer case Neutral (N) position disengages both the front and rear driveshafts from the powertrain and will allow the vehicle to move regardless of the transmission position. The parking brake should always be applied when the driver is not in the vehicle.**

**5**

For additional information on the appropriate use of each transfer case mode position see the information below:

#### **2WD**

Rear Wheel Drive High Range - Normal street and highway driving. Dry hard surfaced roads.

**4WD LOCK**

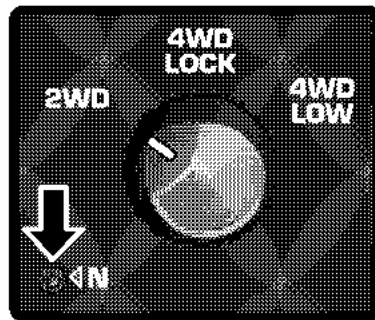
4 Wheel Drive Lock (4WD LOCK) Range - Locks the front and rear driveshafts together. Forces the front and rear wheels to rotate at the same speed. Additional traction for loose or slippery road surfaces only.

**4WD LOW**

4 Wheel Drive Low (4WD LOW) Range - Low speed 4 wheel drive. Locks the front and rear driveshafts together. Forces the front and rear wheels to rotate at the same speed. Additional traction and maximum pulling power for loose or slippery road surfaces only. Do not exceed 25 mph (40 km/h).

**N**

Neutral - Disengages both the front and rear driveshafts from the powertrain. To be used for flat towing behind another vehicle. See Recreational Towing for more information.

**Shifting Procedure - NV233/243 Transfer Case**

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**NOTE:** If any of the requirements to select a new transfer case position have not been met, the transfer case will not shift, the indicator light for the previous position will remain ON, and the newly selected position indicator light will continue to flash until all the requirements for the selected position have been met. To retry a shift:

return the control knob back to the original position, make certain all shift requirements have been met, wait five (5) seconds and try the shift again.

### **2WD to 4WD LOCK or 4WD LOCK to 2WD**

Rotate the 4WD Control Switch to the desired position. Shifts between 2WD and 4WD LOCK can be done with the vehicle stopped or in motion. With the vehicle in motion, the transfer case will engage / disengage faster if you momentarily release the accelerator pedal after turning the control switch. If the vehicle is stopped, the ignition key must be in the ON position with the engine either RUNNING or OFF. This shift cannot be completed if the key is in the accessory position.

**NOTE:** On vehicles equipped with Anti-Lock Brake Systems, the 4x4 system will not allow shifts between 2WD/ 4WD LOCK if the rear wheels are spinning (no traction). In this situation the selected position indicator light will flash and the original position indicator light

will remain ON. At this time, reduce speed and stop spinning the wheels to complete the shift. There may be a delay up to 10 seconds for the shift to complete after the wheels have stopped spinning.

### **4WD LOCK to 4WD LOW or 4WD LOW to 4WD LOCK**

**NOTE:** When shifting into or out of 4WD LOW, some gear noise may be heard. This noise is normal and is not detrimental to the vehicle or occupants.

Shifting can be performed with the vehicle rolling 2-3 mph (3-5 km/h) or completely stopped. USE EITHER OF THE FOLLOWING PROCEDURES:

#### **Preferred Procedure**

1. With engine RUNNING, slow vehicle to 2-3 mph (3-5 km/h).

2. Shift the transmission into NEUTRAL (depress clutch on manual transmissions).
3. While still rolling, rotate the transfer case control switch to the desired position.
4. After the desired position indicator light is ON (not flashing), shift transmission back into gear (release clutch on manual transmissions).

#### **Alternate Procedure**

1. Bring the vehicle to complete stop.
2. With the key ON and the engine either OFF or RUNNING, shift the transmission into NEUTRAL (depress clutch on manual transmissions).
3. Rotate the transfer case control switch to the desired position.

4. After the desired position indicator light is ON (not flashing), shift transmission back into gear (release clutch on manual transmissions).

**NOTE:** If steps 1 or 2 of either the Preferred or Alternate Procedure are not satisfied prior to attempting the shift or if they no longer are being met while the shift attempt is in process, then the indicator light will flash and the current transfer case position will be maintained. To retry the selection, turn the control knob back to the current position, wait five (5) seconds, and retry shift.

**NOTE:** The ignition key must be ON for a shift to take place and for the position indicator lights to be operable. If the key is not ON then the shift will not take place and no position indicator lights will be on or flashing.

## NV 244 Generation II Transfer Case Operating Information / Precautions

The NV 244 Generation II is an electric shift transfer case and is operated by the 4WD Control Switch, which is located on the instrument panel.

The NV 244 Generation II transfer case provides 4 mode positions - Normal four-wheel-drive (4WD) high range, four-wheel-drive lock (4WD LOCK), four-wheel-drive low (4WD LOW) range, and neutral (N).

This transfer case is equipped with an inter-axle differential that allows driving the vehicle in the normal all-wheel-drive position (4WD) at all times on any given road surface, including dry hard surfaced roads. The 4WD mode allows the front and rear wheels to rotate at different speeds. This eliminates driveline binding and component wear normally associated with driving the vehicle in the 4WD LOCK position on dry hard surfaced

roads. This feature provides the safety, security, and convenience of operating in all-wheel drive at all times regardless of road conditions.

When additional traction is required, the 4WD LOCK and 4WD LOW positions can be used to lock the front and rear driveshafts together through the transfer case inter-axle differential and force the front and rear wheels to rotate at the same speed. This is accomplished by rotating the 4WD Control Switch to these positions. The 4WD LOCK and 4WD LOW positions are intended for loose, slippery road surfaces only. Driving in the 4WD LOCK and 4WD LOW positions on dry hard surfaced roads may cause increased tire wear and damage to the driveline components.

The transfer case Neutral (N) position is selected by depressing the recessed button located on the lower left hand corner of the 4WD Control Switch.

**NOTE:** The transfer case Neutral (N) position is to be used for recreational towing only. See Recreational Towing section for specific procedures on shifting into and out of Neutral (N).

### Transfer Case Position Indicator Lights

Transfer case position indicator lights are located on the instrument cluster. If there are no indicator lights on or flashing the transfer case position is Four-Wheel Drive (4WD) and indicate the current and desired transfer case selection (4WD ⇔ 4WD LOCK).

The "SVC 4WD" warning light monitors the electric shift 4WD system. If this light remains on after engine start up or illuminates during driving, it means that the 4WD system is not functioning properly and that service is required.

### WARNING!

**Always engage the parking brake when powering down the vehicle if the "Service 4WD" light is illuminated. Not engaging the parking brake may allow the vehicle to roll which may cause personal injury.**

**NOTE:** Do not attempt to make a shift while only the front or rear wheels are spinning. The NV 244 Generation II transfer case is not equipped with a synchronizer and therefore the front and rear driveshaft speeds must be equal for the shift to take place. Shifting while only the front or rear wheels are spinning can cause damage to the transfer case.

When operating your vehicle in 4WD LOW, the engine speed is approximately three times that of the 4WD or

4WD LOCK positions at a given road speed. Take care not to overspeed the engine and do not exceed 40 km/h (25 mph).

Proper operation of four-wheel-drive vehicles depends on tires of equal size, type and circumference on each wheel. Any difference in tire size can cause damage to the transfer case.

Because four-wheel drive provides improved traction, there is a tendency to exceed safe turning and stopping speeds. Do not go faster than road conditions permit.

### **WARNING!**

**You or others could be injured if you leave the vehicle unattended with the transfer case in the Neutral (N) position without first fully engaging the parking brake. The transfer case Neutral (N) position disengages both the front and rear driveshafts from the powertrain and will allow the vehicle to move regardless of the transmission position. The parking brake should always be applied when the driver is not in the vehicle.**

For additional information on the appropriate use of each transfer case mode position see the following information:

**4WD**

Normal Four-Wheel-Drive High Range - Employs inter-axle differential. Allows front and rear wheels to rotate at different speeds. All road surfaces.

**4WD LOCK**

Four-Wheel-Drive Lock (4WD LOCK)- Locks the transfer case inter-axle differential. Forces front and rear wheels to rotate at the same speed. Additional traction for loose, slippery road surfaces only.

**4WD LOW**

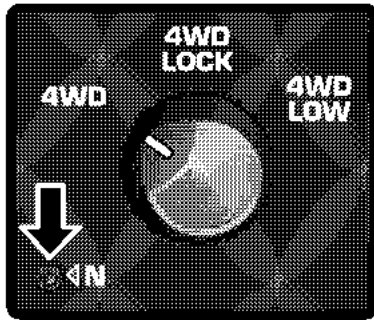
Four-Wheel-Drive Low Range (4WD LOW)- Low speed 4 wheel drive. Locks the transfer case inter-axle differential. Forces the front and rear wheels to rotate at the same speed. Additional traction and maximum pulling power for loose, slippery road surfaces only. Do not exceed 25 mph (40 km/h).

**N**

Neutral - Disengages both the front and rear driveshafts from the powertrain. To be used for flat towing behind another vehicle. See Recreational Towing for more information.



## Shifting Procedure - NV 244 Generation II Transfer Case



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**NOTE:** The 4x4 system will not allow shifts between 4WD/ 4WD LOCK if the rear wheels are spinning (no traction). In this situation a position indicator light will flash and the original position indicator light will remain ON. At this time, reduce speed and stop spinning the

wheels to complete the shift. There may be a delay up to 13 seconds for the shift to complete after the wheels have stopped spinning.

**NOTE:** Delayed shifting out of the 4WD LOCK position may be experienced due to uneven tire wear, low tire pressure, or excessive loading.

**NOTE:** When shifting into or out of 4WD LOW some gear noise may be heard. This noise is normal and is not detrimental to the vehicle or occupants.

Shifting can be performed with the vehicle rolling 2 to 3 mph (3 to 5 km/h) or completely stopped. USE EITHER OF THE FOLLOWING PROCEDURES:

### Preferred Procedure

1. With the engine RUNNING, slow vehicle to 2 to 3 mph (3 to 5 km/h).
2. Shift the transmission into NEUTRAL.

3. While still rolling, rotate the transfer case control switch to the desired position.
4. After the position indicator light has stopped flashing, shift the transmission back into gear.

**Alternate Procedure**

1. Bring the vehicle to complete stop.
2. With the key ON and the engine either OFF or RUNNING, shift the transmission into NEUTRAL.
3. Rotate the transfer case control switch to the desired position.
4. After the position indicator light has stopped flashing, shift the transmission back into gear.

**NOTE:** The ignition key must be ON for a shift to take place and for the position indicator lights to be operable. If the key is not ON then the shift will not take place and no position indicator lights will be on or flashing.

**NOTE:** If any of the requirements to select a new transfer case position have not been met, the transfer case will not shift. The indicator light will flash and the current transfer case position will be maintained. To retry the selection, turn the control knob back to the current position, wait five (5) seconds, and retry the shift.

**LIMITED-SLIP REAR AXLE DIFFERENTIAL— IF EQUIPPED**

The limited-slip differential provides additional traction on snow, ice, mud, sand and gravel. It improves traction when there is a difference between the characteristics of the surface under the right and left rear wheels. During normal driving and cornering, the limited-slip unit is similar to a conventional differential. But on a slippery surface, the differential delivers more of the driving effort to the wheel having the better traction.

**WARNING!**

**On vehicles equipped with a limited-slip differential, never run the engine with one rear wheel off the ground. The vehicle may drive through the rear wheel remaining on the ground and cause you to lose control of the vehicle.**

Care should be taken to avoid sudden accelerations when both rear wheels are on a slippery surface. This could cause both rear wheels to spin, and allow the vehicle to slide sideways on the crowned surface of a road or in a turn.

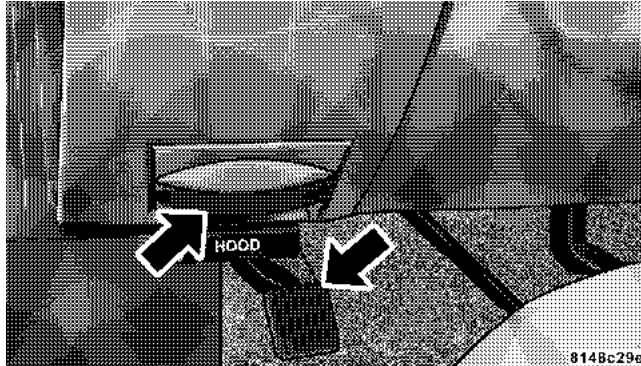
**DRIVING ON SLIPPERY SURFACES**

When driving on wet or slushy roads, it is possible for a wedge of water to build up between the tire and road surface. This is known as hydroplaning and may cause partial or complete loss of vehicle control and stopping ability. To reduce this possibility, the following precautions should be observed:

1. Slow down during rainstorms or when roads are slushy.
2. Slow down if road has standing water or puddles.
3. Replace tires when tread wear indicators first become visible.
4. Keep tires properly inflated.
5. Maintain sufficient distance between your vehicle and the car in front to avoid a collision in a sudden stop.

## PARKING BRAKE

The foot operated parking brake is positioned below the lower left corner of the instrument panel. To release the parking brake, pull the parking brake release handle.



Be sure the parking brake is firmly set when parked and the gear-shift lever is in the PARK position. When parking on a hill you should apply the parking brake before placing the gear shift lever in PARK; otherwise the load on the transmission locking mechanism may make it difficult to move the selector out of PARK.

**NOTE:** The instrument cluster brake warning light indicates only that the parking brake is applied. You must be sure the parking brake is fully applied before leaving the vehicle.

When parking on a hill, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

The parking brake should be applied whenever the driver is not in the vehicle.

**WARNING!**

- Always fully apply the parking brake when leaving your vehicle, or the vehicle may roll and cause damage or injury. Also be certain to leave an automatic transmission in Park. Failure to do so may cause the vehicle to roll and cause damage or injury.
- Be sure the parking brake is fully disengaged before driving. Failure to do so can lead to brake failure and an accident.
- Never leave children alone in a vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Don't leave the keys in the ignition. A child could operate power windows, other controls, or move the vehicle.

**BRAKE SYSTEM**

In the event power assist is lost for any reason (for example, repeated brake applications with the engine off), the brakes will still function. The effort required to brake the vehicle will be significantly more than that required with the power system operating.

If either the front or rear hydraulic system loses normal capability, the remaining system will still function with some loss of braking effectiveness. This will be evident by increased pedal travel during application, greater pedal force required to slow or stop, and activation of the Brake Warning light and the ABS light during brake use.

**Rear Wheel Anti-Lock Brake System – If Equipped**

This Anti-Lock Brake System provides increased vehicle stability and brake performance under most braking conditions. The system automatically controls the operation of the rear brakes to prevent rear wheel lockup.

The system remains operational in the four-wheel drive mode. The level of performance is reduced when the front brakes are locked up. This will cause the rear brakes to lock-up through the drivetrain, which may reduce the effectiveness of the anti-lock system.

During severe braking conditions, particularly with changing road surfaces, such as ice to concrete, a slight drop or minor pulsation may be felt in the brake pedal.

### WARNING!

**Both Anti-Lock Brake Systems contain sophisticated electronic equipment. It may be susceptible to interference caused by improperly installed or high output radio transmitting equipment. This interference can cause possible loss of anti-lock braking capability. Installation of such equipment should be done by qualified professionals.**

### Four-Wheel Anti-Lock Brake System

This Anti-Lock Brake System is designed to aid the driver in maintaining vehicle control under adverse braking conditions. The system operates with a separate computer to modulate hydraulic pressure to prevent wheel lock-up and help avoid skidding on slippery surfaces.

The system's pump motor runs during an ABS stop to provide regulated hydraulic pressure. The pump motor makes a low humming noise during operation, which is normal.

The Anti-Lock Brake System includes an amber ABS warning light. When the light is illuminated, the Anti-Lock Brake System is not functioning. The system reverts to standard non-anti-lock brakes. Turning the ignition OFF and ON again may reset the Anti-Lock Brake System if the fault detected was only momentary.

**WARNING!**

Pumping of the Anti-Lock Brakes will diminish their effectiveness and may lead to an accident. Pumping makes the stopping distance longer. Just press firmly on your brake pedal when you need to slow down or stop.

**WARNING!**

- Anti-lock Brake Systems (ABS) cannot prevent the natural laws of physics from acting on the vehicle, nor can it increase braking or steering efficiency beyond that afforded by the condition of the vehicle brakes and tires or the traction afforded.
- The ABS cannot prevent accidents, including those resulting from excessive speed in turns, following another vehicle too closely, or hydroplaning. Only a safe, attentive, and skillful driver can prevent accidents.
- The capabilities of an ABS equipped vehicle must never be exploited in a reckless or dangerous manner which could jeopardize the user's safety or the safety of others.

When you are in a severe braking condition involving use of the Anti-lock Brake System, you will experience some pedal drop as the vehicle comes to a stop. This is the result of the system reverting to the base brake system.

Engagement of the Anti-lock Brake System may be accompanied by a pulsing sensation. You may also hear a clicking noise. These occurrences are normal, and indicate that the system is functioning properly.

### **POWER STEERING**

The standard power steering system will give you good vehicle response and increased ease of maneuverability in tight spaces. The system will provide mechanical steering capability if power assist is lost.

If for some reason, the power assist is interrupted, it will still be possible to steer your vehicle. Under these conditions you will observe a substantial increase in steering effort, especially at very low vehicle speeds and during parking maneuvers.

**NOTE:** Increased noise levels at the end of the steering wheel travel are considered normal and does not indicate that there is a problem with the power steering system.

Upon initial start-up in cold weather, the power steering pump may make noise for a short period of time. This is due to the cold, thick fluid in the steering system. This noise should be considered normal, and does not in any way damage the steering system.



**WARNING!**

Continued operation with reduced power steering assist could pose a safety risk to yourself and others. Service should be obtained as soon as possible.

**CAUTION!**

Prolonged operation of the steering system at the end of the steering wheel travel will increase the steering fluid temperature and should be avoided when possible. Damage to the power steering pump may occur.

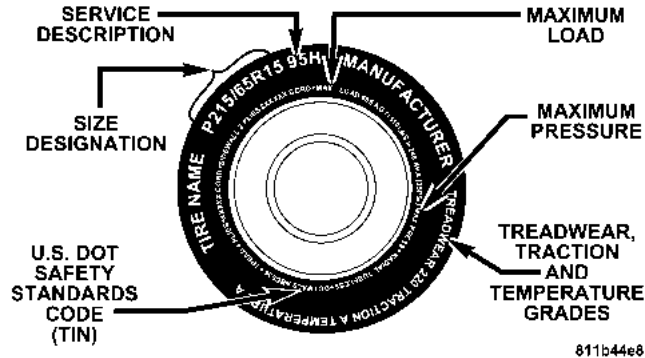
**ROCKING THE VEHICLE**

If vehicle becomes stuck in snow, sand, or mud, it can often be moved by a rocking motion. Move the gear selector rhythmically between FIRST and REVERSE, while applying slight pressure to the accelerator.

The least amount of accelerator pedal pressure to maintain the rocking motion without spinning the wheels or racing the engine is most effective. Allow the engine to idle with the transmission selector in NEUTRAL for at least one minute after every five rocking-motion cycles. This will minimize overheating and reduce the risk of transmission failure during prolonged efforts to free a stuck vehicle.

## TIRE SAFETY INFORMATION

### Tire Markings



### NOTE:

- P (Passenger)-Metric tire sizing is based on U.S. design standards. P-Metric tires have the letter "P" molded into the sidewall preceding the size designation. Example: P215/65R15 95H.

- European Metric tire sizing is based on European design standards. Tires designed to this standard have the tire size molded into the sidewall beginning with the section width. The letter "P" is absent from this tire size designation. Example: 215/65R15 96H
- LT (Light Truck)-Metric tire sizing is based on U.S. design standards. The size designation for LT-Metric tires is the same as for P-Metric tires except for the letters "LT" that are molded into the sidewall preceding the size designation. Example: LT235/85R16.
- Temporary Spare tires are high-pressure compact spares designed for temporary emergency use only. Tires designed to this standard have the letter "T" molded into the sidewall preceding the size designation. Example: T145/80D18 103M.
- High Flotation tire sizing is based on U.S. design standards and it begins with the tire diameter molded into the sidewall. Example: 31x10.5 R15 LT.

## Tire Sizing Chart

<b>EXAMPLE:</b>	
<b>Size Designation:</b>	
	<b>P</b> = Passenger car tire size based on U.S. design standards
	<b>"...blank..."</b> = Passenger car tire based on European design standards
	<b>LT</b> = Light Truck tire based on U.S. design standards
	<b>T</b> = Temporary Spare tire
	<b>31</b> = Overall Diameter in Inches (in)
	<b>215</b> = Section Width in Millimeters (mm)
	<b>65</b> = Aspect Ratio in Percent (%) —Ratio of section height to section width of tire.
	<b>10.5</b> = Section Width in Inches (in)
	<b>R</b> = Construction Code —"R" means Radial Construction. —"D" means Diagonal or Bias Construction.
	<b>15</b> = Rim Diameter in Inches (in)

<b>EXAMPLE:</b>	
<b>Service Description:</b>	
<b>95</b> = Load Index	—A numerical code associated with the maximum load a tire can carry.
<b>H</b> = Speed Symbol	—A symbol indicating the range of speeds at which a tire can carry a load corresponding to its load index under certain operating conditions. —The maximum speed corresponding to the Speed Symbol should only be achieved under specified operating conditions. (i.e. tire pressure, vehicle loading, road conditions, and posted speed limits).
<b>Load Identification:</b>	
<b>"...blank..."</b>	= Absence of any text on sidewall of the tire indicates a Standard Load (SL) Tire
<b>Extra Load (XL)</b>	= Extra Load (or Reinforced) Tire
<b>Light Load</b>	= Light Load Tire
<b>C,D,E</b>	= Load range associated with the maximum load a tire can carry at a specified pressure
<b>Maximum Load</b> — Maximum Load indicates the maximum load this tire is designed to carry.	
<b>Maximum Pressure</b> — Maximum Pressure indicates the maximum permissible cold tire inflation pressure for this tire.	

**Tire Identification Number (TIN)**

The TIN may be found on one or both sides of the tire; however, the date code may only be on one side. Tires with white sidewalls will have the full TIN including date code

located on the white sidewall side of the tire. Look for the TIN on the outboard side of black sidewall tires as mounted on the vehicle. If the TIN is not found on the outboard side then you will find it on the inboard side of the tire.

**EXAMPLE:****DOT MA L9 ABCD 0301**

**DOT** = Department of Transportation

—This symbol certifies that the tire is in compliance with the U.S. Department of Transportation tire safety standards, and is approved for highway use.

**MA** = Code representing the tire manufacturing location. (2 digits)

**L9** = Code representing the tire size. (2 digits)

**ABCD** = Code used by tire manufacturer. (1 to 4 digits)

**03** = Number representing the week in which the tire was manufactured. (2 digits)

—03 means the 3rd week.

**01** = Number representing the year in which the tire was manufactured. (2 digits)

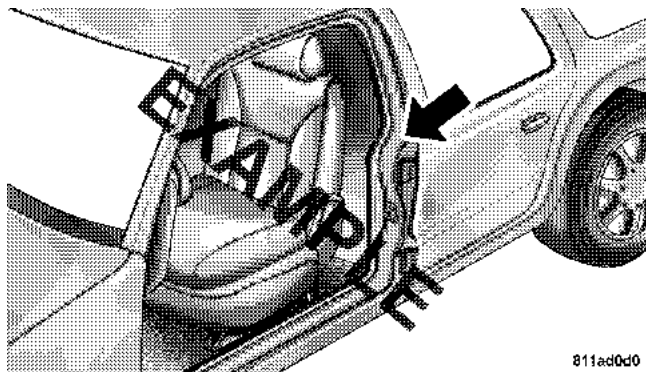
—01 means the year 2001.

—Prior to July 2000, tire manufacturers were only required to have 1 number to represent the year in which the tire was manufactured. Example: 031 could represent the 3rd week of 1981 or 1991.

## Tire Loading and Tire Pressure

### Tire Placard Location

**NOTE:** The proper cold tire inflation pressure is listed on either the face of the driver's door or the driver's side "B" pillar.



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Tire Placard Location

## Tire and Loading Information Placard

**TIRE AND LOADING INFORMATION**

SEATING CAPACITY - TOTAL 5 FRONT 2 REAR 3

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NOT EXCEED XXX KG OR XXX LBS.

TIRE	FRONT	REAR	SPARE
ORIGINAL TIRE SIZE	P195/70R14	P195/70R14	T125/70D15
COLD TIRE INFLATION PRESSURE	200kPa, 29PSI	200kPa, 29PSI	420kPa, 60PSI

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION

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### Tire and Loading Information

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This placard tells you important information about the:

- 1) number of people that can be carried in the vehicle
- 2) the total weight your vehicle can carry
- 3) the tire size designed for your vehicle
- 4) the cold tire inflation pressures for the front, rear and spare tires.

## Loading

The vehicle maximum load on the tire must not exceed the load carrying capacity of the tire on your vehicle. You will not exceed the tire's load carrying capacity if you adhere to the loading conditions, tire size, and cold tire inflation pressures specified on the "Tire and Loading Information" placard and in the "Vehicle Loading" section of this manual.

**NOTE:** Under a maximum loaded vehicle condition, gross axle weight ratings (GAWR's) for the front and rear axles must not be exceeded. For further information on GAWR's, vehicle loading, and trailer towing, refer to the "Vehicle Loading" section of this manual.

To determine the maximum loading conditions of your vehicle, locate the statement "The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs." on the Tire and Loading Information placard. The

combined weight of occupants, cargo/luggage and trailer tongue weight (if applicable) should never exceed the weight referenced here.

### *Steps for Determining Correct Load Limit*

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX pounds" on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if "XXX" amount equals 1400 lbs. and there will be five 150 lb.

passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. (since  $5 \times 150 = 750$ , and  $1400 - 750 = 650$  lbs.)

5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.

6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

**NOTE:** The following table shows examples on how to calculate total load, cargo/luggage, and towing capacities of your vehicle with varying seating configurations and number and size of occupants. This table is for illustration purposes only and may not be accurate for the seating and load carry capacity of your vehicle.

**NOTE:** For the following example, the combined weight of occupants and cargo should never exceed 865 lbs. (392 Kg).



Occupants			Combined weight of occupants and cargo from Tire Placard	MINUS	Combined Occupant's weight	=	AVAILABLE Cargo/Luggage and Trailer Tongue Weight
TOTAL	FRONT	REAR					
<u>EXAMPLE 1</u>			865 lbs	minus	670 lbs	=	195 lbs
5	2	3					
<u>EXAMPLE 2</u>			865 lbs	minus	540 lbs	=	325 lbs
3	2	1					
<u>EXAMPLE 3</u>			865 lbs	minus	400 lbs	=	465 lbs
2	2	0					

Occupant 1: 200 lbs  
 Occupant 2: 130 lbs  
 Occupant 3: 160 lbs  
 Occupant 4: 100 lbs  
 Occupant 5: 80 lbs  
 TOTAL WEIGHT: 670 lbs

Occupant 1: 210 lbs  
 Occupant 2: 180 lbs  
 Occupant 3: 150 lbs  
 TOTAL WEIGHT: 540 lbs

Occupant 1: 200 lbs  
 Occupant 2: 200 lbs  
 TOTAL WEIGHT: 400 lbs

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**WARNING!**

Overloading of your tires is dangerous. Overloading can cause tire failure, affect vehicle handling, and increase your stopping distance. Use tires of the recommended load capacity for your vehicle. Never overload them.

**TIRES — GENERAL INFORMATION****Tire Pressure**

Proper tire inflation pressure is essential to the safe and satisfactory operation of your vehicle. Three primary areas are affected by improper tire pressure:

**1. Safety—****WARNING!**

- Improperly inflated tires are dangerous and can cause accidents.
- Under inflation increases tire flexing and can result in tire failure.
- Over inflation reduces a tire's ability to cushion shock. Objects on the road and chuckholes can cause damage that result in tire failure.
- Unequal tire pressures can cause steering problems. You could lose control of your vehicle.
- Over inflated or under inflated tires can affect vehicle handling and can fail suddenly, resulting in loss of vehicle control.
- Unequal tire pressures from one side of the vehicle to the other can cause the vehicle to drift to the right or left.
- Always drive with each tire inflated to the recommended cold tire inflation pressure.

### 2. *Economy*—

Improper inflation pressures can cause uneven wear patterns to develop across the tire tread. These abnormal wear patterns will reduce tread life resulting in a need for earlier tire replacement. Under inflation, also increases tire rolling resistance and results in higher fuel consumption.

### 3. *Ride Comfort and Vehicle Stability*—

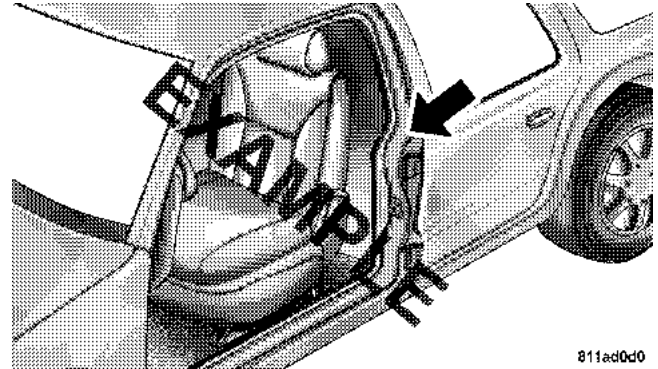
Proper tire inflation contributes to a comfortable ride. Over inflation produces a jarring and uncomfortable ride.

### **Tire Inflation Pressures**

The proper cold tire inflation pressure is listed either on the face of the driver's door or on the driver's side "B" pillar.

Some vehicles may have Supplemental Tire Pressure Information for vehicle loads that are less than the

maximum loaded vehicle condition. These pressure conditions will be found in the "Supplemental Tire Pressure Information" section of this manual.



### **Tire Placard Location**

The pressure should be checked and adjusted as well as inspecting for signs of tire wear or visible damage at least once a month. Use a good quality pocket-type gauge to

check tire pressure. Do not make a visual judgement when determining proper inflation. Radial tires may look properly inflated even when they are under inflated.

### CAUTION!

**After inspecting or adjusting the tire pressure, always reinstall the valve stem cap (if equipped). This will prevent moisture and dirt from entering the valve stem, which could damage the valve stem.**

Inflation pressures specified on the placard are always "cold tire inflation pressure." Cold tire inflation pressure is defined as the tire pressure after the vehicle has not been driven for at least 3 hours, or driven less than 1 mile (1 km) after a 3 hour period. The cold tire inflation pressure must not exceed the maximum inflation pressure molded into the tire sidewall.

Check tire pressures more often if subject to a wide range of outdoor temperatures, as tire pressures vary with temperature changes.

Tire pressures change by approximately 1 psi (7 kPa) per 12° F (7° C) of air temperature change. Keep this in mind when checking tire pressure inside a garage, especially in the winter.

Example: If garage temperature = 68° F (20° C) and the outside temperature = 32° F (0° C) then the cold tire inflation pressure should be increased by 3 psi (21 kPa), which equals 1 psi (7 kPa) for every 12° F (7° C) for this outside temperature condition.

Tire pressure may increase from 2 to 6 psi (13 to 40 kPa) during operation. DO NOT reduce this normal pressure build up or your tire pressure will be too low.

### Tire Pressures for High Speed Operation

The manufacturer advocates driving at safe speeds within posted speed limits. Where speed limits or conditions are such that the vehicle can be driven at high speeds, maintaining correct tire inflation pressure is very important. Increased tire pressure and reduced vehicle loading may be required for high-speed vehicle operation. Refer to original equipment or an authorized tire dealer for recommended safe operating speeds, loading and cold tire inflation pressures.

#### **WARNING!**

**High speed driving with your vehicle under maximum load is dangerous. The added strain on your tires could cause them to fail. You could have a serious accident. Don't drive a vehicle loaded to the maximum capacity at continuous speeds above 75 mph (120 km/h).**

### Radial-Ply Tires

#### **WARNING!**

**Combining radial ply tires with other types of tires on your vehicle will cause your vehicle to handle poorly. The instability could cause an accident. Always use radial ply tires in sets of four (or 6, in case of trucks with dual rear wheels). Never combine them with other types of tires.**

Cuts and punctures in radial tires are repairable only in the tread area because of sidewall flexing. Consult your authorized tire dealer for radial tire repairs.

### Compact Spare Tire — If Equipped

The compact spare is for temporary emergency use with radial tires. It is engineered to be used on your style vehicle only. Since this tire has limited tread life, the original tire should be repaired (or replaced) and reinstalled at the first opportunity.

#### WARNING!

Temporary use spare tires are for emergency use only. With these tires, do not drive more than 50 mph (80 km/h). Temporary-use spare tires have limited tread life. When the tread is worn to the tread wear indicators, the temporary use spare tire needs to be replaced. Be sure to follow the warnings, which apply to your spare. Failure to do so could result in spare tire failure and loss of vehicle control.

Do not install a wheel cover or attempt to mount a conventional tire on the compact spare wheel, since the wheel is designed specifically for the compact spare.

Do not install more than one compact spare tire/wheel on the vehicle at any given time.

#### CAUTION!

Because of the reduced ground clearance, do not take your vehicle through an automatic car wash with the compact spare installed. Damage to the vehicle may result.

### Limited Use Spare — If Equipped

The limited use spare tire is for temporary emergency use on your vehicle. This tire is identified by a limited use spare tire warning label located on the limited use spare tire and wheel assembly. This tire may look like the original equipped tire on the front or rear axle of your vehicle, but it is not. Installation of this limited use spare tire affects vehicle handling. Since it is not the same tire, replace (or repair) the original tire and reinstall on the vehicle at the first opportunity.

### WARNING!

**The limited use spare tires are for emergency use only. Installation of this limited use spare tire affects vehicle handling. With this tire, do not drive more than 60 mph (100 km/h). Keep inflated to the cold tire inflation pressure listed on either your tire placard or limited use spare tire and wheel assembly. Replace (or repair) the original tire at the first opportunity and reinstall it on your vehicle. Failure to do so could result in loss of vehicle control.**

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### Tire Spinning

When stuck in mud, sand, snow, or ice conditions, do not spin your vehicle's wheels above 35 mph (55 km/h).

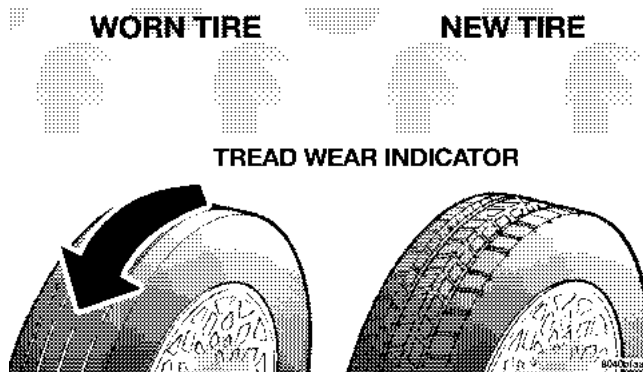
Refer to the paragraph on "Freeing A Stuck Vehicle" in Section 6 of this manual.

**WARNING!**

Fast spinning tires can be dangerous. Forces generated by excessive wheel speeds may cause tire damage or failure. A tire could explode and injure someone. Do not spin your vehicle's wheels faster than 30 mph (48 km/h) for more than 30 seconds continuously when you are stuck, and don't let anyone near a spinning wheel, no matter what the speed.

**Tread Wear Indicators**

Tread wear indicators are in the original equipment tires to help you in determining when your tires should be replaced.



These indicators are molded into the bottom of the tread grooves. They will appear as bands when the tread depth becomes 1/16 inch (2 mm). When the tread is worn to the tread wear indicators, the tire should be replaced.

Many states have laws requiring tire replacement at this point.



### Life of Tire

The service life of a tire is dependent upon varying factors including but not limited to:

- Driving style
- Tire pressure
- Distance driven

#### WARNING!

**Tires and spare tire should be replaced after six years, regardless of the remaining tread. Failure to follow this warning can result in sudden tire failure. You could lose control and have an accident resulting in serious injury or death.**

Keep dismantled tires in a cool, dry place with as little exposure to light as possible. Protect tires from contact with oil, grease, and gasoline.

### Replacement Tires

The tires on your new vehicle provide a balance of many characteristics. They should be inspected regularly for wear and correct cold tire inflation pressure. The manufacturer strongly recommends that you use tires equivalent to the originals in size, quality and performance when replacement is needed (refer to the paragraph on "Tread Wear Indicators"). Refer to the "Tire and Loading Information" placard for the size designation of your tire. The service description and load identification will be found on the original equipment tire. Failure to use equivalent replacement tires may adversely affect the safety, handling, and ride of your vehicle. We recommend that you contact your original equipment or an authorized tire dealer with any questions you may have on tire specifications or capability.

**WARNING!**

- Do not use a tire, wheel size or rating other than that specified for your vehicle. Some combinations of unapproved tires and wheels may change suspension dimensions and performance characteristics, resulting in changes to steering, handling, and braking of your vehicle. This can cause unpredictable handling and stress to steering and suspension components. You could lose control and have an accident resulting in serious injury or death. Use only the tire and wheel sizes with load ratings approved for your vehicle.
- Never use a tire with a smaller load index or capacity, other than what was originally equipped on your vehicle. Using a tire with a smaller load index could result in tire overloading and failure. You could lose control and have an accident.
- Failure to equip your vehicle with tires having adequate speed capability can result in sudden tire failure and loss of vehicle control.

**CAUTION!**

Replacing original tires with tires of a different size may result in false speedometer and odometer readings.

**Alignment And Balance**

Poor suspension alignment may result in:

- Fast tire wear.
- Uneven tire wear, such as feathering and one-sided wear.
- Vehicle pull to right or left.

Tires may also cause the vehicle to pull to the left or right. Alignment will not correct this condition. See your dealer for proper diagnosis.

Improper alignment will not cause vehicle vibration. Vibration may be a result of tire and wheel out-of-balance. Proper balancing will reduce vibration and avoid tire cupping and spotty wear.

### **SUPPLEMENTAL TIRE PRESSURE INFORMATION – IF EQUIPPED**

A light load vehicle condition is defined as two passengers {150 lbs (68 kg) each} plus 200 lbs (91kg) of cargo. Cold tire inflation pressures for a lightly loaded vehicle will be found on the face of the driver's door.

### **TIRE CHAINS**

#### **CAUTION!**

- The use of chains is permitted only on vehicles equipped with P245/70R16 tires.
- Use only "Class S" chains or other traction aids that meet SAE Type "S" specifications.
- Tire chain use is permitted only on the rear tires.
- Chains must be the proper size for the vehicle, as recommended by the chain manufacturer.

**CAUTION!**

To avoid damage to your vehicle, tires or chains, observe the following precautions:

- Because of limited chain clearance between tires and other suspension components, it is important that only chains in good condition are used. Broken chains can cause serious vehicle damage. Stop the vehicle immediately if noise occurs that could suggest chain breakage. Remove the damaged parts of the chain before further use.
- Install chains as tightly as possible and then retighten after driving about 1/2 mile (0.8 km).
- Do not exceed 45 mph (72 km/h).
- Drive cautiously and avoid severe turns and large bumps, especially with a loaded vehicle.
- Do not install tire chains on front wheels of 4x2 vehicles.
- Do not drive for a prolonged period on dry pavement.
- Observe the tire chain manufacturer's instructions on method of installation, operating speed, and conditions for usage. Always use the lower suggested operating speed of the chain manufacturer if different than the speed recommended by the manufacturer.

These cautions apply to all chain traction devices, including link and cable (radial) chains.

Tire chain use is permitted only on the rear tires of Dakota trucks.

**NOTE:** The use of class "S" chains is permitted on Dakotas with P245/70R16 tires.

**CAUTION!**

- Do not use tire chains on vehicles equipped with tires other than P245/70R16. There may not be adequate clearance for the chains and you are risking structural or body damage to your vehicle.
- Do not use tire chains on the front wheels of your vehicle. There may not be adequate clearance for the chains and you are risking structural or body damage to your vehicle.

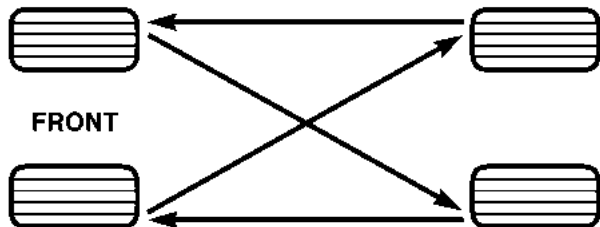
**SNOW TIRES**

Snow tires should be of the same size and type construction as the front tires. Consult the manufacturer of the snow tire to determine any maximum vehicle speed requirement associated with the tire. These tires should always be operated at the vehicle maximum capacity inflation pressures under any load condition.

While studded tires improve performance on ice, skid and traction capability on wet or dry surfaces may be poorer than that of non-studded tires. Some states prohibit studded tires; therefore, local laws should be checked before using these tire types.

**TIRE ROTATION RECOMMENDATIONS**

Tires on the front and rear axles of vehicles operate at different loads and perform different steering, driving, and braking functions. For these reasons, they wear at unequal rates and tend to develop irregular wear patterns. These effects can be reduced by timely rotation of tires. The benefits of rotation are especially worthwhile with aggressive tread designs such as those on all season type tires. Rotation will increase tread life, help to maintain mud, snow and wet traction levels, and contribute to a smooth, quiet ride.



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Follow the recommended tire rotation frequency for your type of driving found in the “Maintenance Schedules” Section of this manual. More frequent rotation is permissible if desired. The reasons for any rapid or unusual wear should be corrected prior to rotation being performed.

## FUEL REQUIREMENTS



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The 3.7L/4.7L engines are designed to meet all emissions regulations and provide excellent fuel economy and performance when using high quality unleaded “regular” gasoline having an octane rating of 87.

The routine use of premium gasoline is not recommended. Under normal conditions the use of premium fuel will not provide a benefit over high quality regular gasoline and in some circumstances may result in poorer performance.



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The 4.7 HO engine is designed to meet all emissions regulations and provide satisfactory fuel economy and performance when using high quality unleaded gasoline having an octane range of 87 to 91. The manufacturer recommends the use of 91 octane

for optimum performance.

Light spark knock at low engine speeds is not harmful to your engine. However, continued heavy spark knock at high speeds can cause damage and immediate service is required.

Poor quality gasoline can cause problems such as hard starting, stalling and hesitations. If you experience these symptoms, try another brand of "regular" gasoline before considering service for the vehicle.

Over 40 auto manufacturers world-wide have issued and endorsed consistent gasoline specifications (the World-wide Fuel Charter, WWFC) to define fuel properties necessary to deliver enhanced emissions, performance and durability for your vehicle. We recommend the use of gasolines that meet the WWFC specifications if they are available.

### **Reformulated Gasoline**

Many areas of the country require the use of cleaner burning gasoline referred to as "Reformulated Gasoline." Reformulated gasolines contain oxygenates, and are specifically blended to reduce vehicle emissions and improve air quality.

We strongly support the use of reformulated gasolines. Properly blended reformulated gasolines will provide excellent performance and durability for the engine and fuel system components.

### **Gasoline/Oxygenate Blends**

Some fuel suppliers blend unleaded gasoline with oxygenates such as 10% ethanol, MTBE and ETBE. Oxygenates are required in some areas of the country during the winter months to reduce carbon monoxide emissions. Fuels blended with these oxygenates may be used in your vehicle.

**CAUTION!**

**DO NOT use gasoline containing Methanol or E85 Ethanol. Use of these blends may result in starting and driveability problems and may damage critical fuel system components.**

**NOTE: 4.7L Engine — If Equipped**, is now rated for E85 Ethanol use. Only vehicles with the E-85 fuel filler door label can operate on E-85. For more information, refer to “Flexible Fuel” in this section.

Problems that result from using methanol/gasoline blends are not the responsibility of the manufacturer. While MTBE is an oxygenate made from Methanol, it does not have the negative effects of Methanol.

**MMT In Gasoline**

MMT is a manganese-containing metallic additive that is blended into some gasoline to increase octane. Gasolines blended with MMT provide no performance advantage beyond gasolines of the same octane number without MMT. Gasolines blended with MMT reduce spark plug life and reduce emission system performance. We recommend that gasolines free of MMT be used in your vehicle. The MMT content of gasoline may not be indicated on the gasoline pump; therefore, you should ask your gasoline retailer whether or not his/her gasoline contains MMT.

It is even more important to look for gasolines without MMT in Canada because MMT can be used at levels higher than allowed in the United States. MMT is prohibited in Federal and California reformulated gasolines.



### Materials Added To Fuel

All gasolines sold in the United States are required to contain effective detergent additives. Use of additional detergents or other additives is not needed under normal conditions and would result in unnecessary cost. Therefore, you should not have to add anything to the fuel.

### Fuel System Cautions

<b>CAUTION!</b>
Follow these guidelines to maintain your vehicle's performance:

- The use of leaded gas is prohibited by Federal law. Using leaded gasoline can impair engine performance, damage the emission control system.
- An out-of-tune engine, or certain fuel or ignition malfunctions, can cause the catalytic converter to

overheat. If you notice a pungent burning odor or some light smoke, your engine may be out of tune or malfunctioning and may require immediate service. Contact your dealer for service assistance.

- When pulling a heavy load or driving a fully loaded vehicle when the humidity is low and the temperature is high, use a premium unleaded fuel to help prevent spark knock. If spark knock persists, lighten the load, or engine piston damage may result.
- The use of fuel additives which are now being sold as octane enhancers is not recommended. Many of these products contain high concentrations of methanol. Fuel system damage or vehicle performance problems resulting from the use of such fuels or additives is not the responsibility of the manufacturer.

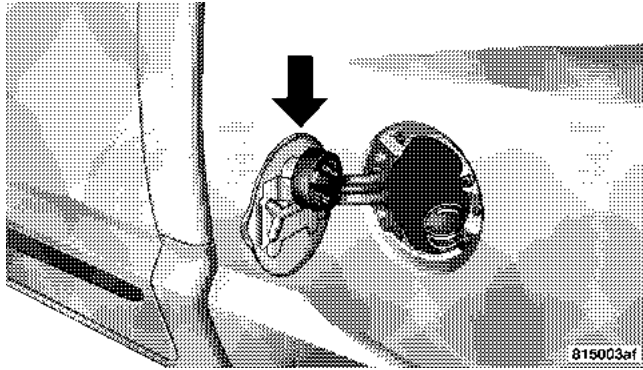
**NOTE:** Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

## Carbon Monoxide Warnings

### WARNING!

**Carbon monoxide (CO) in exhaust gases is deadly. Follow the precautions below to prevent carbon monoxide poisoning:**

- Do not inhale exhaust gases. They contain carbon monoxide, a colorless and odorless gas which can kill. Never run the engine in a closed area, such as a garage, and never sit in a parked vehicle with the engine running for an extended period. If the vehicle is stopped in an open area with the engine running for more than a short period, adjust the ventilation system to force fresh, outside air into the vehicle.
- Guard against carbon monoxide with proper maintenance. Have the exhaust system inspected every time the vehicle is raised. Have any abnormal conditions repaired promptly. Until repaired, drive with all side windows fully open.
- Keep the liftgate closed when driving your vehicle to prevent carbon monoxide and other poisonous exhaust gases from entering the vehicle.

**ADDING FUEL****Fuel Cap Holder**

**NOTE:** If fuel is poured from a portable container, the container should have a flexible nozzle long enough to extend into the fuel filler tube.

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**NOTE:** When the fuel nozzle “clicks” or shuts off, the fuel tank is full.

**NOTE:** Tighten the gas cap until you hear a “clicking” sound. This is an indication that the gas cap is properly tightened. Make sure that the gas cap is tightened each time the vehicle is refueled.

**5**

**WARNING!**

A fire may result if gasoline is pumped into a portable container that is inside of a vehicle or on a truck bed. You could be burned. Always place gas containers on the ground while filling.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap (gas cap). A poorly fitting cap could let impurities into the fuel system.

**Fuel Filler Cap (Gas Cap)**

The gas cap is behind the fuel filler door. If the gas cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**WARNING!**

- Never allow any lit smoking materials near the vehicles while removing the cap or filling the tank.
- Never add fuel to the vehicle when the engine is running.

## FLEXIBLE FUEL— IF EQUIPPED

### E-85 General Information

The information in this section is for Flexible Fuel vehicles only. These vehicles can be identified by the unique fuel filler door label that states **Ethanol (E-85) or Unleaded Gasoline Only**. This section only covers those subjects that are unique to these vehicles. Please refer to the other sections of this manual for information on features that are common between Flexible Fuel and gasoline only powered vehicles.

#### CAUTION!

Only vehicles with the E-85 fuel filler door label can operate on E-85.

### ETHANOL FUEL (E-85)

E-85 is a mixture of approximately 85% fuel ethanol and 15% unleaded gasoline.

#### WARNING!

Ethanol vapors are extremely flammable and could cause serious personal injury. Never have any smoking materials lit in or near the vehicle when removing the fuel filler tube cap (gas cap) or filling the tank. Do not use E-85 as a cleaning agent and never use it near an open flame.

### Fuel Requirements

Your vehicle will operate on both unleaded gasoline with an octane rating of 87, or E-85 fuel, or any mixture of these two.

For best results, a refueling pattern that alternates between E-85 and unleaded gasoline should be avoided. When you do switch fuels, it is recommended that

- you do not switch when the fuel gauge indicates less than 1/4 full
- you do not add less than 5 gallons when refueling
- you operate the vehicle immediately after refueling for a period of at least 5 minutes

Observing these precautions will avoid possible hard starting and/or significant deterioration in drivability during warm up.

**NOTE:** When the ambient temperature is above 90°F, you may experience hard starting and rough idle following start up even if the above recommendations are followed.

### **Selection Of Engine Oil For Flexible Fuel Vehicles (E-85) and Gasoline Vehicles**

Whether operating the vehicle on an E-85 ethanol fuel or unleaded gasoline the engine oil requirements are the same. Refer to the “Maintenance Procedures” section of this manual for the proper quality and viscosity engine oil.

### **Starting**

The characteristics of E-85 fuel make it unsuitable for use when ambient temperatures fall below 0°F. In the range of 0°F to 32°F, you may experience an increase in the time it takes for your engine to start, and a deterioration in drivability (sags and/or hesitations) until the engine is fully warmed up.

### Cruising Range

Because E-85 fuel contains less energy per gallon than gasoline, you will experience an increase in fuel consumption. You can expect your MPG and your driving range to decrease by about 30% compared to gasoline operation.

### Replacement Parts

Many components in your Flexible Fuel Vehicle (FFV) are designed to be compatible with ethanol. Always be sure that your vehicle is serviced with correct ethanol compatible parts.

#### CAUTION!

Replacing fuel system components with non-ethanol compatible components can damage your vehicle.

### Maintenance

If you operate the vehicle using E-85 fuel, follow Schedule B in the maintenance schedule section of this manual.

#### CAUTION!

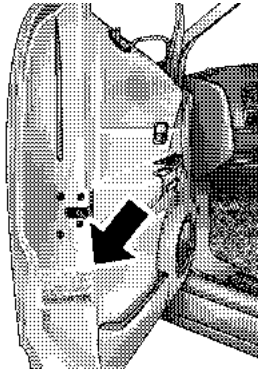
Do not use ethanol mixture greater than 85% in your vehicle. It will cause difficulty in cold starting and may affect drivability.

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### VEHICLE LOADING

#### Certification Label

As required by National Highway Traffic Safety Administration Regulations, your vehicle has a certification label affixed to the driver's side door.



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This label contains the month and year of manufacture, Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Rating (GAWR) front and rear, and Vehicle Identification Number (VIN). A Month-Day-Hour (MDH) number is included on this label and shows the Month, Day, and

Hour of manufacture. The bar code that appears on the bottom of the label is your Vehicle Identification Number (VIN).

### **Gross Vehicle Weight Rating (GVWR)**

The GVWR is the total permissible weight of your vehicle including driver, passengers, vehicle, options, and cargo. The label also specifies maximum capacities of front and rear axle systems. Total load must be limited so that GVWR is not exceeded.

### **Payload**

The payload of a vehicle is defined as the allowable load weight a truck can carry including the weight of the driver, all passengers, options, and cargo.

### **Gross Axle Weight Rating (GAWR)**

The GAWR is the maximum permissible load on the front and rear axles. The load must be distributed in the cargo area so that the GAWR of each axle is not exceeded.



Each axle GAWR is determined by the component in the system with the lowest load carrying capacity (axle, springs, tires, or wheels).

Heavier axles or suspension components sometimes specified by purchasers for increased durability do not necessarily increase the vehicle's GVWR.

### **Tire Size**

This is the minimum allowable tire size for your vehicle. Replacement tires must be equal to the load capacity of this tire size.

### **Rim Size**

This is the rim size that is appropriate for the tire size listed.

### **Inflation Pressure (Cold)**

This is the cold tire inflation pressure for your vehicle for all loading conditions up to full GAWR.

### **Curb Weight**

The curb weight of a vehicle is defined as the total weight of the vehicle with all fluids, including vehicle fuel, at full capacity conditions, and with no occupants or cargo loaded into the vehicle. The front and rear curb weight values are determined by weighing your vehicle on a commercial scale before any occupants or cargo are added.

### **Loading**

The actual total weight and the weight of the front and rear of your vehicle at the ground can best be determined by weighing it when it is loaded and ready for operation.

The entire vehicle should first be weighed on a commercial scale to insure that the GVWR has not been exceeded. The weight on the front and rear of the vehicle should then be determined separately to be sure that the load is properly distributed over front and rear axle. Weighing the vehicle may show that the GAWR of either the front

or rear axles has been exceeded but the total load is within the specified GVWR. If so, weight must be shifted from front to rear or rear to front as appropriate until the specified weight limitations are met.

Store heavier items down low and be sure that the weight is distributed equally. Stow all loose items securely before driving.

Improper weight distribution can have an adverse effect on the way your vehicle steers and handles and the way the brakes operate.

**WARNING!**

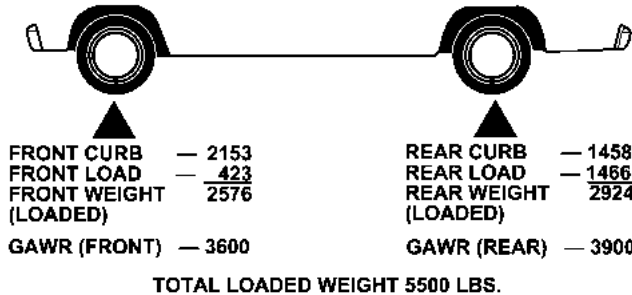
**Do not load your vehicle any heavier than the GVWR or the maximum front and rear GAWR. If you do, parts on your vehicle can break, or it can change the way your vehicle handles. This could cause you to lose control. Also, overloading can shorten the life of your vehicle.**

A loaded vehicle is shown in the following example. Note that neither GVWR nor GAWR capabilities are exceeded. Overloading can cause potential safety hazards and shorten service life.

**NOTE:** The weights shown in this chart are not the weights for your vehicle. Also, the amount of load added to both the front and rear axles can be computed

after the vehicle has been weighed both in its "curb weight" condition, and in its "loaded and ready for operation" condition.

Gross Vehicle Weight Rating (GVWR) 6500 LBS.



8120c425

## TRAILER TOWING

In this section you will find safety tips and information on limits to the type of towing you can reasonably do with your vehicle. Before towing a trailer carefully review this information to tow your load as efficiently and safely as possible.

To maintain warranty coverage, follow the requirements and recommendations in this manual concerning vehicles used for trailer towing.

## Common Towing Definitions

The following trailer towing related definitions will assist you in understanding the following information:

### Gross Vehicle Weight Rating (GVWR)

The GVWR is the total allowable weight of your vehicle. This includes driver, passengers, cargo and tongue weight. The total load must be limited so that you do not exceed the GVWR.

### Gross Trailer Weight (GTW)

The gross trailer weight (GTW) is the weight of the trailer plus the weight of all cargo, consumables and equipment (permanent or temporary) loaded in or on the trailer in its "loaded and ready for operation" condition. The recommended way to measure GTW is to put your fully loaded trailer on a vehicle scale. The entire weight of the trailer must be supported by the scale.

### Gross Combination Weight Rating (GCWR)

The gross combination weight rating (GCWR) is the total permissible weight of your vehicle and trailer when weighed in combination. (Note that GCWR ratings include a 68 kg (150 lbs) allowance for the presence of a driver).

### Gross Axle Weight Rating (GAWR)

The GAWR is the maximum capacity of the front and rear axles. Distribute the load over the front and rear axles evenly. Make sure that you do not exceed either front or rear GAWR.

#### WARNING!

**It is important that you do not exceed the maximum front or rear GAWR. A dangerous driving condition can result if either rating is exceeded. You could lose control of the vehicle and have an accident.**

### Tongue Weight (TW)

The downward force exerted on the hitch ball by the trailer. In most cases it should not be less than 10% or more than 15% of the trailer load. You must consider this as part of the load on your vehicle.

## Frontal Area

The maximum height and maximum width of the front of a trailer.

## TSC (Trailer Sway Control) – If Equipped

- **Trailer Sway Control – Electronic**

TSC uses sensors in the vehicle to recognize a swaying trailer and will take the appropriate actions to attempt to stop the sway. The system will reduce engine power and apply individual brakes that will counter act the sway of the trailer. TSC will become active automatically once the swaying trailer is recognized. No driver action is required. TSC can not stop all trailers from swaying. Always use caution when towing a trailer and follow the tongue weight recommendations. Even if your vehicle is equipped with electronic trailer sway control, mechanical sway control is recommended when appropriate for the size of your trailer.

- **Trailer Sway Control – Mechanical**

The trailer sway control is a telescoping link that can be installed between the hitch receiver and the trailer tongue that typically provides adjustable friction associated with the telescoping motion to dampen any unwanted trailer swaying motions while traveling.

## Weight-Carrying Hitch

A weight-carrying hitch supports the trailer tongue weight, just as if it were luggage located at a hitch ball or some other connecting point of the truck. These kind of hitches are the most popular on the market today and they're commonly used to tow small- and medium-sized trailers.

## Weight-Distributing Hitch

A weight-distributing system works by applying leverage through spring (load) bars. They are typically used for heavier loads, to distribute trailer tongue weight to the tow vehicle's front axle and the trailer axle(s). When

used in accordance with the manufacturers' directions, it provides for a more level ride, offering more consistent steering and brake control thereby enhancing towing safety. The addition of a friction / hydraulic sway control also dampens sway caused by traffic and crosswinds and contributes positively to tow vehicle and trailer stability. Trailer sway control and a weight distributing (load equalizing) hitch are recommended for heavier Tongue Weights (TW) and may be required depending on Vehicle and Trailer configuration / loading to comply with gross axle weight rating (GAWR) requirements.

**WARNING!**

**An improperly adjusted Weight Distributing Hitch system may reduce handling, stability, braking performance, and could result in an accident.**

**Weight Distributing Systems may not be compatible with Surge Brake Couplers. Consult with your hitch and trailer manufacturer or a reputable Recreational Vehicle dealer for additional information.**

## EXAMPLE ONLY

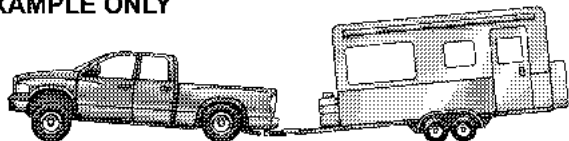


FIG. 1 WITHOUT WEIGHT DISTRIBUTION (INCORRECT)

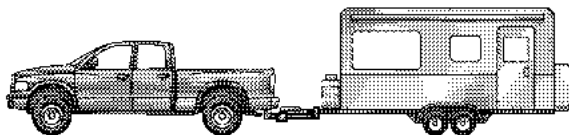


FIG. 2. WITH WEIGHT DISTRIBUTION (CORRECT)

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Weight Distributing Hitch System

## EXAMPLE ONLY

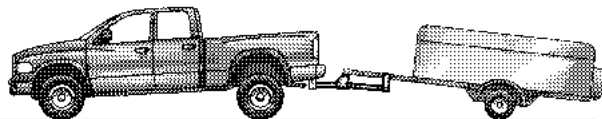


FIG. 3 IMPROPER ADJUSTMENT (INCORRECT)

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Improper Adjustment of Weight Distributing System

5

**Fifth-Wheel Hitch**

A special high platform with a coupling that mounts over the rear axle of the tow vehicle in the truck bed. Connects a vehicle and fifth-wheel trailer with a coupling king pin.

### Gooseneck Hitch

The gooseneck hitch employs a pivoted coupling arm which attaches to a ball mounted in the bed of a pickup truck. The coupling arm connects to the hitch mounted over the rear axle in the truck bed.

### Trailer Hitch Classification

The rear bumper is intended to tow trailers up to 2,000 lbs (907 kg) without added equipment or alterations to the standard equipment. Your vehicle may be factory equipped for safe towing of trailers weighing over 2,000 lbs (907 kg) with the optional Trailer Tow Prep Package. See your dealer for package content.

The following chart provides the industry standard for the maximum trailer weight a given trailer hitch class can tow and should be used to assist you in selecting the correct trailer hitch for your intended towing condition. Refer to "Trailer Towing Weights (Maximum Trailer

Weight Ratings)" for the website address that contains the necessary information for your specific drivetrain.

Trailer Hitch Classification	
Class	Max. GTW (Gross Trailer Wt.)
Class I - Light Duty	2,000 lbs (907 kg)
Class II - Medium Duty	3,500 lbs (1587 kg)
Class III - Heavy Duty	5,000 lbs (2268 kg)
Class IV - Extra Heavy Duty	10,000 lbs (4540 kg)
Fifth Wheel/ Gooseneck	Greater than 10,000 lbs (4540 kg)

All trailer hitches should be professionally installed on your vehicle.



## Trailer Towing Weights (Maximum Trailer Weight Ratings)

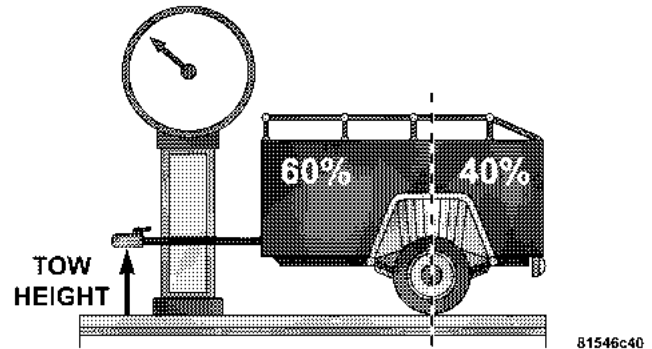
**NOTE:** For additional trailer towing information (maximum trailer weight ratings) refer to the following website addresses:

- [http:// www.dodge.com/towing](http://www.dodge.com/towing).
- [http:// www.dodge.ca](http://www.dodge.ca) (Canada).

### Trailer and Tongue Weight

Always load a trailer with 60% to 65% of the weight in the front of the trailer. This places 10% to 15% of the Gross Trailer Weight (GTW) on the tow hitch of your vehicle. Loads balanced over the wheels or heavier in the rear can cause the trailer to sway **severely** side to side which will cause loss of control of vehicle and trailer. Failure to load trailers heavier in front is the cause of many trailer accidents.

Never exceed the maximum tongue weight stamped on your bumper or trailer hitch.



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Consider the following items when computing the weight on the rear axle of the vehicle:

- The tongue weight of the trailer.

- The weight of any other type of cargo or equipment put in or on your vehicle.
- The weight of the driver and all passengers.

**NOTE:** Remember that everything put into or on the trailer adds to the load on your vehicle. Also, additional factory-installed options, or dealer-installed options, must be considered as part of the total load on your vehicle. Refer to the Tire and Loading Information placard in the Tire Safety Information Section of this manual.

### **Towing Requirements**

To promote proper break-in of your new vehicle drivetrain components the following guidelines are recommended:

#### **CAUTION!**

- **Avoid towing a trailer for the first 500 miles (805 km) of vehicle operation. Doing so may damage your vehicle.**
- **During the first 500 miles (805 km) of trailer towing, limit your speed to 50 mph (80 km/h).**

Perform the maintenance listed in Section 8 of this manual. When towing a trailer, never exceed the GAWR, or GCWR, ratings.

**WARNING!**

Improper towing can lead to an injury accident. Follow these guidelines to make your trailer towing as safe as possible:

Make certain that the load is secured in the trailer and will not shift during travel. When trailering cargo that is not fully secured, dynamic load shifts can occur that may be difficult for the driver to control. You could lose control of your vehicle and have an accident.

- When hauling cargo or towing a trailer, do not overload your vehicle or trailer. Overloading can cause a loss of control, poor performance or damage to brakes, axle, engine, transmission, steering, suspension, chassis structure or tires.
- Safety chains must always be used between your vehicle and trailer. Always connect the chains to the frame or hook retainers of the vehicle hitch. Cross the chains under the trailer tongue and allow enough slack for turning corners.
- Vehicles with trailers should not be parked on a grade. When parking, apply the parking brake on the tow vehicle. Put the tow vehicle automatic transmission in P for Park. With a manual transmission, shift the transmission into reverse. And with four-wheel-drive vehicles, make sure the transfer case is not in neutral. Always, block or "chock" the trailer wheels.
- GCWR must not be exceeded.
- **Total weight must be distributed between the tow vehicle and the trailer such that the following four ratings are not exceeded:**
  1. GVWR

2. GTW
3. GAWR
4. Tongue weight rating for the trailer hitch utilized (This requirement may limit the ability to always achieve the 10% to 15% range of tongue weight as a percentage of total trailer weight).

#### **Towing Requirements — Tires**

- Do not attempt to tow a trailer while using a compact spare tire.
- Proper tire inflation pressures are essential to the safe and satisfactory operation of your vehicle. Refer to the Tires–General Information section of this manual on Tire Pressures for proper tire inflation procedures.
- Also, check the trailer tires for proper tire inflation pressures before trailer usage.

- Check for signs of tire wear or visible tire damage before towing a trailer. Refer to the Tires–General Information section of this manual on Tread Wear Indicators for the proper inspection procedure.
- When replacing tires refer to the Tires–General Information section of this manual on Replacement Tires for proper tire replacement procedures. Replacing tires with a higher load carrying capacity will not increase the vehicle’s GVWR and GAWR limits.

#### **Towing Requirements — Trailer Brakes**

- Do **not** interconnect the hydraulic brake system or vacuum system of your vehicle with that of the trailer. This could cause inadequate braking and possible personal injury.
- An electronically actuated trailer brake controller is required when towing a trailer with electronically

actuated brakes. When towing a trailer equipped with a hydraulic surge actuated brake system, an electronic brake controller is not required.

- Trailer brakes are recommended for trailers over 1,000 lbs (454 kg) and required for trailers in excess of 2,000 lbs (907 kg).

### CAUTION!

If the trailer weighs more than 1,000 lbs (454 kg) loaded, it should have its own brakes and they should be of adequate capacity. Failure to do this could lead to accelerated brake lining wear, higher brake pedal effort, and longer stopping distances.

### WARNING!

**Do not connect trailer brakes to your vehicle's hydraulic brake lines. It can overload your brake system and cause it to fail. You might not have brakes when you need them and could have an accident.**

**Towing any trailer will increase your stopping distance. When towing you should allow for additional space between your vehicle and the vehicle in front of you. Failure to do so could result in an accident.**

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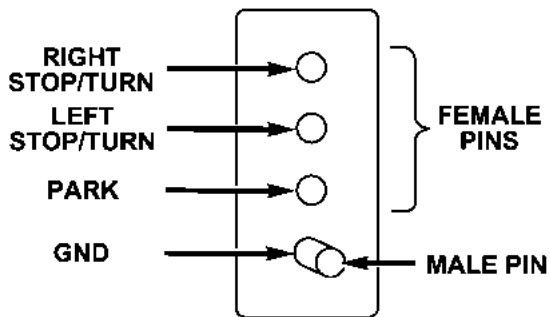
### Towing Requirements — Trailer Lights & Wiring

Whenever you pull a trailer, regardless of the trailer size, stop lights and turn signals on the trailer are required for motoring safety.

The Trailer Tow Package may include a 4 and 7 pin wiring harness. Use a factory approved trailer harness and connector.

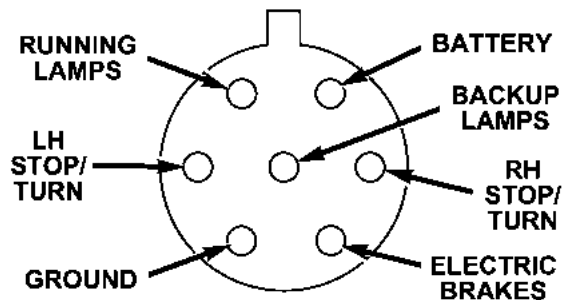
**NOTE:** Do not cut or splice wiring into the vehicles wiring harness.

The electrical connections are all complete to the vehicle but you must mate the harness to a trailer connector. Refer to the following illustrations.



4 - Pin Connector

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7- Pin Connector

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### Towing Tips

Before setting out on a trip, practice turning, stopping and backing the trailer in an area away from heavy traffic.

If using a manual transmission vehicle for trailer towing, all starts must be in FIRST gear to avoid excessive clutch slippage.

### **Towing Tips — Automatic Transmission**

The “D” range can be selected when towing. However, if frequent shifting occurs while in this range, the “TOW HAUL” feature should be selected.

**NOTE:** Using the “TOW HAUL” feature while operating the vehicle under heavy operating conditions will improve performance and extend transmission life by reducing excessive shifting and heat build up. This action will also provide better engine braking.

The automatic transmission fluid and filter should be changed if you REGULARLY tow a trailer for more than 45 minutes of continuous operation. See Schedule “B” in section 8 of this manual for transmission fluid change intervals.

**NOTE:** Check the automatic transmission fluid level before towing.

### **Towing Tips — Tow/Haul (If Equipped)**

To reduce potential for automatic transmission overheating, turn the “TOW HAUL” feature ON when driving in hilly areas or shift the transmission to Drive position 2 on more severe grades.

### **Towing Tips — Electronic Speed Control (If Equipped)**

- Don’t use in hilly terrain or with heavy loads.
- When using the speed control, if you experience speed drops greater than 10 mph (16 km/h), disengage until you can get back to cruising speed.
- Use speed control in flat terrain and with light loads to maximize fuel efficiency.

### Towing Tips — Cooling System

To reduce potential for engine and transmission overheating, take the following actions:

– *City Driving*

When stopped for short periods of time, put transmission in neutral and increase engine idle speed.

– *Highway Driving*

Reduce speed.

– *Air Conditioning*

Turn off temporarily.

– refer to Cooling System Operating information in the Maintenance section of this manual for more information.

### SNOWPLOW

#### Dodge Dakota Models

**NOTE:** Do not use Dodge Dakota Models for snowplow applications.

#### WARNING!

Snowplows, winches, and other aftermarket equipment should not be added to the front end of your vehicle. The airbag crash sensors may be affected by the change in the front end structure. The airbags could deploy unexpectedly or could fail to deploy during a collision resulting in serious injury or death.



**CAUTION!**

Using this vehicle for snowplow applications can cause damage to the vehicle.

**WARNING!**

Attaching a snowplow to this vehicle could adversely affect performance of the airbag system in an accident. Do not expect that the airbag will perform as described earlier in this manual

**RECREATIONAL TOWING (BEHIND MOTORHOME, ETC.)****Recreational Towing 2WD Models**

Recreational towing of 2WD models is not allowable. Towing the vehicle with the transmission in Neutral can cause severe transmission damage. Removal of the drive-shaft for towing is not recommended, since this would allow fluid to drain from the transmission.

**Recreational Towing 4WD Models****CAUTION!**

Internal damage to the transfer case will occur if a front or rear wheel lift is used when recreational towing.

**CAUTION!**

The transfer case must be shifted into Neutral (N) for recreational towing. The Neutral (N) selection button is located on the lower left hand corner of the 4WD Control Switch. Shifts into and out of transfer case Neutral (N) can take place with the selector switch in any mode position.

Automatic Transmissions must be placed in P (Park) position for recreational towing.

Manual Transmissions must be placed in gear (for example, 4th gear) for recreational towing. Failure to follow these procedures can cause severe transmission and/or transfer case damage.

**Recreational Towing Procedure**

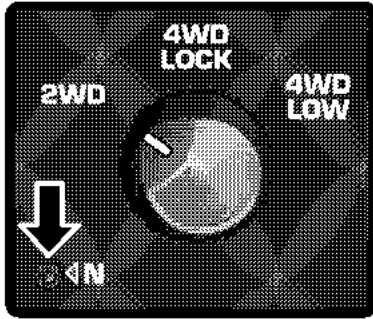
Use the following procedure to prepare your vehicle for recreational towing.

**CAUTION!**

It is necessary to follow these steps to be certain that the transfer case is fully in Neutral (N) before recreational towing to prevent damage to internal parts.

1. Bring vehicle to a complete stop.
2. Shut engine OFF.
3. Place ignition key in the ON position.
4. Depress brake pedal.
5. Shift automatic transmission to Neutral (N) or depress clutch on manual transmission.

6. Using the point of a ballpoint pen or similar object, depress the recessed transfer case Neutral (N) button for 4 seconds.



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7. After shift is completed and the Neutral (N) light comes on release Neutral (N) button.

8. Start engine.

9. Shift automatic transmission into Reverse (R).

10. Release brake pedal for five seconds and ensure that there is no vehicle movement.

11. Repeat steps 9 and 10 with the transmission in Drive (D).

12. Shut engine OFF and place ignition key to the unlocked OFF position.

13. Shift automatic transmission into Park (P). Shift Manual transmissions into 4th gear.

14. Attach vehicle to tow vehicle with tow bar.

15. Disconnect the negative battery cable.

**NOTE:** Items 1 through 5 are requirements that must be met prior to depressing the Neutral (N) selection button, and must continue to be met until the 4 seconds elapse and the shift has been completed. If any of these requirements (with the exception of 3 - Key ON) are not met prior to depressing the Neutral (N) button or are no longer met

during the 4 second timer, then the Neutral (N) indicator light will flash continuously until all requirements are met or until the Neutral (N) button is released.

**NOTE:** The ignition key must be ON for a shift to take place and for the position indicator lights to be operable. If the key is not ON, the shift will not take place and no position indicator lights will be on or flashing.

**NOTE:** Flashing neutral (N) position indicator light indicates that shift requirements have not been met.

### CAUTION!

**Damage to the transmission may occur if the transmission is shifted into Park (P) with the transfer case in Neutral (N) and the engine RUNNING. With the transfer case in Neutral (N), ensure that the engine is OFF prior to shifting the transmission into Park (P).**

### Returning to Normal Operation

Use the following procedure to prepare your vehicle for normal usage.

1. Reconnect the negative battery cable.
2. The vehicle must be at a complete stop.
3. Place the ignition in the Off position (if it has been moved or the engine has been started).
4. Place ignition key in the ON position (engine Off).
5. Depress brake pedal.
6. Shift automatic transmission to Neutral (N) or depress clutch on manual transmission.
7. Using the point of a ballpoint pen or similar object, depress the recessed transfer case Neutral (N) button for 1 second.

8. After the Neutral (N) indicator light turns off release the Neutral (N) button.
9. After the Neutral (N) button has been released the transfer case will shift to the position identified by the selector switch.
10. Start the engine. Shift the automatic transmission into Drive (D), or place the manual transmission in 1st gear and momentarily release the clutch, to verify that the transfer case has engaged.
11. Set parking brake. Shift automatic transmission to Park (P) or shift manual transmission to Neutral.

**NOTE:** Items 1 through 5 are requirements that must be met prior to depressing the Neutral (N) selection button,

and must continue to be met until 1 second elapses and the shift has been completed. If any of these requirements (with the exception of 3 - key ON) are not met prior to depressing the Neutral (N) button or are no longer met during the 1 second time, then all of the mode position indicator lights will flash continuously until all requirements are met or until the Neutral (N) button is released.

**NOTE:** The ignition key must be ON for a shift to take place and for the position indicator lights to be operable. If the key is not ON, the shift will not take place and no position indicator lights will be on or flashing.

**NOTE:** Flashing neutral (N) position indicator light indicates that shift requirements have not been met.

**WARNING!**

You or others could be injured if you leave the vehicle unattended with the transfer case in the Neutral (N) position without first fully engaging the parking brake. The transfer case Neutral (N) position disengages both the front and rear driveshafts from the powertrain and will allow the vehicle to move despite the transmission position. The parking brake should always be applied when the driver is not in the vehicle.

**CAUTION!**

- Do not use a bumper mounted clamp-on tow bar on your vehicle. The bumper face bar will be damaged.
- Do not disconnect the rear driveshaft because fluid will leak from the transfer case and damage internal parts.

**EQUIPMENT IDENTIFICATION PLATE**

The equipment Identification Plate is located on the hood inner surface.

The following information about your vehicle is displayed on this plate: Model, Wheelbase, Vehicle Identification Number, Truck Order Number, and code numbers with descriptions of all production and special equipment on the truck as shipped from the factory.

**NOTE:** Always refer to the equipment identification plate when ordering parts.

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# WHAT TO DO IN EMERGENCIES

## CONTENTS

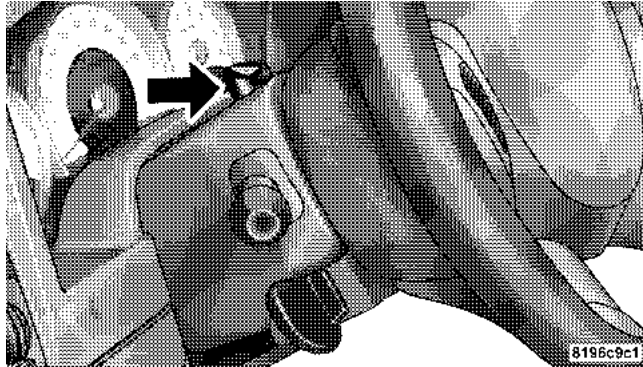
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■ Hazard Warning Flasher . . . . .	272	■ Jump Starting . . . . .	283
■ Adding Fuel . . . . .	272	■ Emergency Tow Hooks — If Equipped . . . . .	285
■ Changing A Flat Tire . . . . .	273	■ Towing A Disabled Vehicle . . . . .	286
□ Jack Location . . . . .	273	□ Four-Wheel Drive Vehicles . . . . .	286
□ Removing The Spare Tire . . . . .	275	□ Two-Wheel Drive Vehicles . . . . .	287
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### HAZARD WARNING FLASHER

The flasher switch is on the top of the steering column, just behind the steering wheel. Press the flasher switch and all front and rear directional signals will flash intermittently.

Press the switch a second time to turn off the emergency flashers.



This is an emergency warning system and should not be used when the vehicle is in motion. Use it when your vehicle is disabled and is creating a safety hazard for other motorists.

If it is necessary to leave the vehicle to go for service, the flasher system will continue to operate with the ignition key removed and the vehicle locked.

### ADDING FUEL

If using a portable fuel container, it should have a flexible nozzle long enough to reach past the restriction in the fuel filler tube.



**WARNING!**

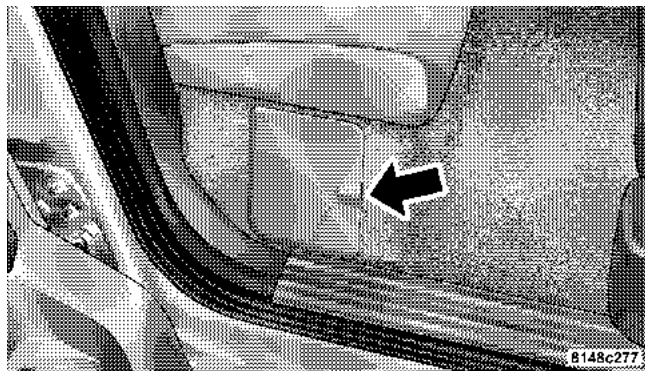
- Never allow any lit smoking materials near the vehicles while removing the cap or filling the tank.
- Never add fuel to the vehicle when the engine is running.
- A fire may result if gasoline is pumped into a portable container that is in a vehicle or on a truck bed. You could be burned. Always place gas containers on the ground while filling.

**CHANGING A FLAT TIRE****Jack Location**

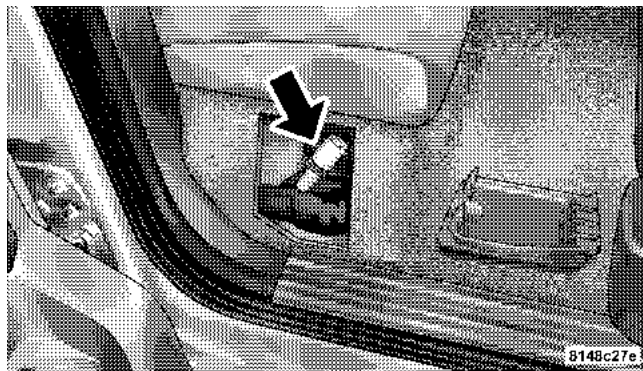
In the Dakota, the scissor jack and tire changing tools for Club Cab models are stowed in a compartment under the rear passenger seat. Quad Cab model scissor jack and tire changing tools are accessed by lifting up the rear passenger seat.

The jack is secured in place by turning the jack screw until the jack is secured into place.

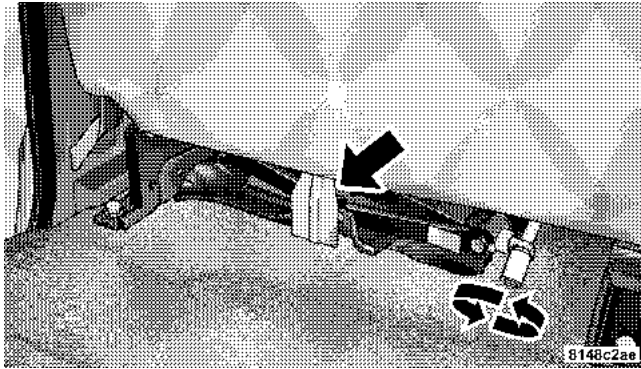
A finger operated helper tool is provided to assist removal and stowage of the jack. This tool must be removed to operate the jack for changing the spare tire.



Jack Stowage Location Extended Cab



Jack Stowage Location Extended Cab



Jack Stowage Location Double Cab

### WARNING!

The jack is designed as a tool for changing tires only. The jack should not be used to lift the vehicle for service purposes, unless suitable supports are placed under the vehicle as a safety measure. The vehicle should be jacked on a firm level surface only. Avoid ice or slippery areas.

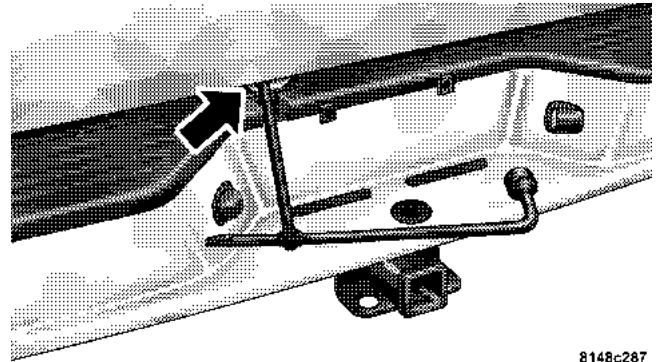
### Removing The Spare Tire

Remove the spare tire before attempting to jack the truck. Attach the wheel wrench to the jack extension tube. Insert the tube through the access hole in the rear bumper and into the winch mechanism tube. Rotate the wheel wrench handle counterclockwise until the spare tire is on the ground with enough cable slack to allow you to pull it out from under the vehicle. When the spare is clear, tilt the retainer at the end of the cable and pull it through the center of the wheel.

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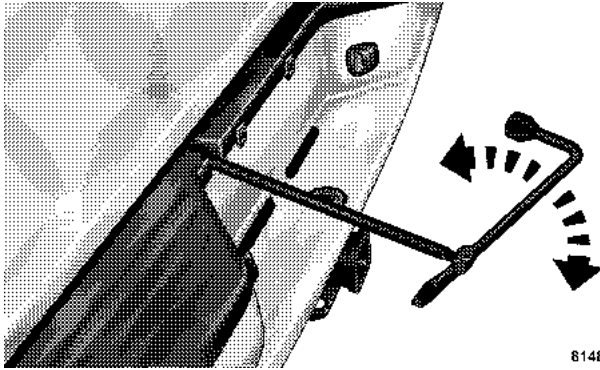
### *Steps for Removing the Spare Tire*

- Remove the jack from the stowage compartment using the supplied finger assist tool.
- Remove the finger assist tool from jack and set aside until jack is stowed.
- Assemble the jack tools.
- Locate the tire carrier access hole on the rear bumper.
- Place assembled jack tool extension rod into the access hole in the direction of the arrow on the bumper trim.
- Rotate the tool counterclockwise to release and lower the spare tire to the ground so that it can be pulled from under the vehicle.
- Rotate clockwise to stow the spare tire.



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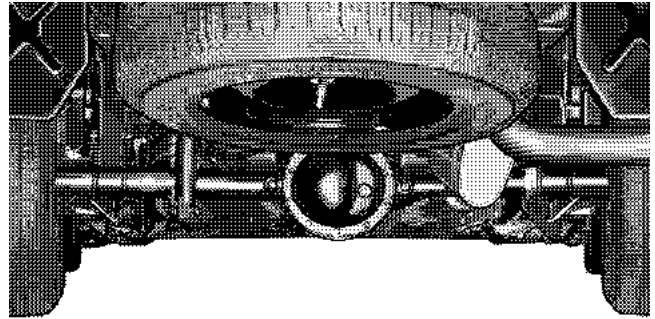
**Inserting Lug Wrench and Extension**



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### Turning Lug Wrench and Extension

It is recommended that you stow the flat or spare to avoid tangling the loose cable.



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### Spare Tire Stowage Location

**NOTE:** The winch mechanism is designed for use with the jack extension tube only. Use of an air wrench or other power tools is not recommended and can damage the winch.

## Tire Changing Procedure

### WARNING!

Getting under a jacked-up vehicle is dangerous. The vehicle could slip off the jack and fall on you. You could be crushed. Never get any part of your body under a vehicle that is on a jack. Never start or run the engine while the vehicle is on a jack. If you need to get under a raised vehicle, take it to a service center where it can be raised on a lift.

Do not raise this vehicle using a bumper jack. The scissor jack is designed as a tool for changing tires on this vehicle only. It is not recommended that the jack be used for service purposes or to lift more than one wheel at a time.

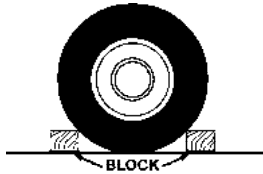
### Preparations

Park the vehicle on a firm level surface, avoiding ice or slippery areas. Set the parking brake and place the gear selector in PARK (automatic transmission). On Four Wheel Drive vehicles, shift the transfer case to the "4L" position.

### 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.

- Turn on the Hazard Warning Flasher.



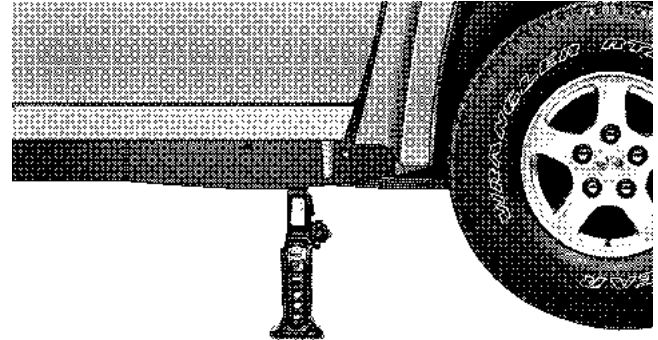
- Block both the front and rear of the wheel diagonally opposite the jacking position. For example, if the right front wheel is being changed, block the left rear wheel.

- Passengers should not remain in the vehicle when the vehicle is being jacked.

### Instructions

1. Lower and remove the spare wheel, jack, and tools from stowage.
2. Using the wheel wrench, loosen, but do not remove, the wheel nuts by turning them counterclockwise one turn while the wheel is still on the ground.
3. When changing a front wheel, place the jack under the frame rail behind the wheel. Locate the jack as far forward as possible on the straight part of the frame prior

to inboard transition, as shown. Operate the jack using the jack drive tube and the wheel wrench - the tube extension, may be used but is not required.

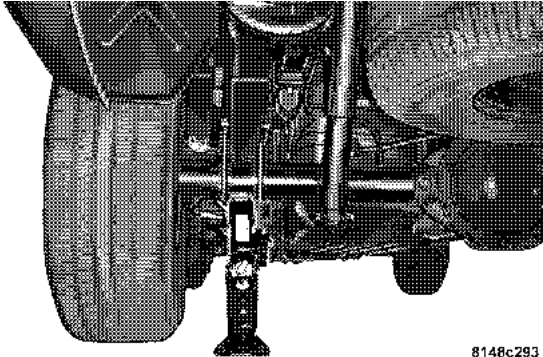


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### Positioning of the Jack Front Wheels

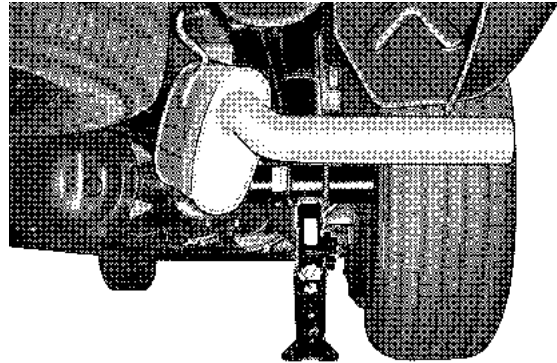
When changing a rear wheel, assemble the jack drive tube to the jack and connect the drive tube to the extension tube. Place the jack under the axle in the

positions shown with the drive tubes extending to the rear. Connect the jack tube extension and wheel wrench.



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Left Rear Jacking Location



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Right Rear Jacking Location

**NOTE:** Before raising the wheel off the ground, make sure that the jack will not damage surrounding truck parts and adjust the jack position as required.

4. By rotating the wheel wrench clockwise, raise the vehicle until the wheel just clears the surface.



**WARNING!**

Raising the vehicle higher than necessary can make the vehicle unstable and cause an accident. It could slip off the jack and hurt someone near it. Raise the vehicle only enough to remove the tire.

5. Remove the wheel nuts and pull the wheel off. Install the spare wheel and wheel nuts with the cone shaped end of the nuts toward the wheel. Lightly tighten the nuts. To avoid risk of forcing the vehicle off the jack, do not fully tighten the nuts until the vehicle has been lowered.

6. Using the wheel wrench, finish tightening the nuts in a crisscross pattern. Correct nut tightness is 130-160 ft. lbs. (177-217 N·m). If in doubt about the correct tightness, have them checked with a torque wrench by your dealer or at a service station.

**WARNING!**

A loose tire or jack thrown forward in a collision or hard stop could injure someone in the vehicle. Always stow the jack, tools and the extra tire and wheel in the places provided.

7. Lower the jack to its fully closed position. Stow the replaced tire, jack, and tools as previously described.

8. Adjust the tire pressure when possible.

**NOTE:** Do not oil wheel studs. For chrome wheels, do not substitute with chrome plated wheel nuts.

**WARNING!**

Carefully follow these tire changing warnings to help prevent personal injury or damage to your vehicle:

- Always park on a firm, level surface as far from the edge of the roadway as possible before raising the vehicle.
- Block the wheel diagonally opposite the wheel to be raised.
- Apply the parking brake firmly before jacking.
- Never start the engine with the vehicle on a jack.
- Do not let anyone sit in the vehicle when it is on a jack.
- Do not get under the vehicle when it is on a jack.
- Only use the jack in the positions indicated.
- If working on or near a roadway, be extremely careful of motor traffic.
- To assure that spare tires, flat or inflated are securely stowed, spares must be stowed with the valve stem facing the ground.

**To Stow The Flat Or Spare**

Turn the wheel so that the valve stem is down. Slide the wheel retainer through the center of the wheel and position it properly across the wheel opening.

For convenience in checking the spare tire inflation, stow with the valve stem toward the rear of the vehicle.

Rotate the winch mechanism until the wheel is drawn into place against the underside of the vehicle. Continue to rotate until you feel the winch mechanism slip or click 3 times. It cannot be overtightened. Push against the tire several times to be sure it is firmly in place.

To Stow the Flat or Spare: Wheel retainer does not fit through the center of the aluminum wheel. The tire must be stored in a safe manner in the bed of the truck.

## JUMP STARTING

### WARNING!

- **Battery fluid is a corrosive acid solution; do not allow battery fluid to contact eyes, skin or clothing. Don't lean over battery when attaching clamps or allow the clamps to touch each other. If acid splashes in eyes or on skin, flush the contaminated area immediately with large quantities of water.**
- **A battery generates hydrogen gas which is flammable and explosive. Keep flame or spark away from the vent holes. Do not use a booster battery or any other booster source with an output that exceeds 12 volts.**

Check the Battery Test Indicator (if equipped). If a light or bright colored dot is visible in the indicator (if equipped), **DO NOT** jump-start the battery.

If the indicator (if equipped) is dark or shows a green dot, proceed as follows:

1. Wear eye protection and remove all metal jewelry such as watch bands or bracelets which might make an unintended electrical contact.
2. Park the booster vehicle within cable reach but without letting the vehicles touch. Set the parking brake, place the automatic transmission in PARK and turn the ignition OFF on both vehicles.
3. Turn OFF heater, radio and all unnecessary electrical loads.

4. Connect one end of a jumper cable to the positive terminal of the booster battery. Connect the other end of the same cable to the positive terminal of the discharged battery.

**WARNING!**

**Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.**

5. Connect the other cable, first to the negative terminal of the booster battery and then to the engine of the vehicle with the discharged battery. Make sure you have a good contact on the engine.

**WARNING!**

**Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.**

**During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting jump start.**

6. Start the engine in the vehicle which has the booster battery, let the engine idle a few minutes, then start the engine in the vehicle with the discharged battery.

7. When removing the jumper cables, reverse the above sequence exactly. Be careful of the moving belts and fan.

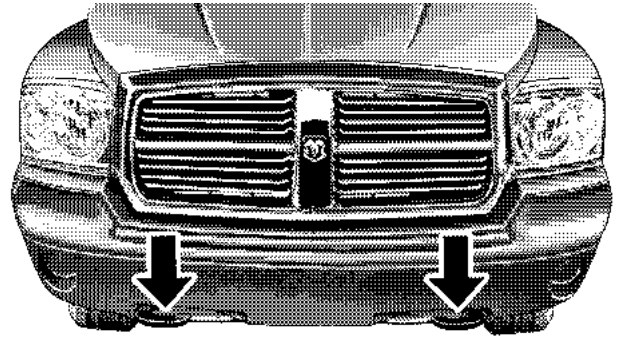
**WARNING!**

Any procedure other than above could result in:

1. Personal injury caused by electrolyte squirting out the battery vent;
2. Personal injury or property damage due to battery explosion;
3. Damage to charging system of booster vehicle or of immobilized vehicle.

**EMERGENCY TOW HOOKS — IF EQUIPPED**

Your vehicle may be equipped with emergency tow hooks.



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**WARNING!**

Chains are not recommended for freeing a stuck vehicle. Chains may break, causing serious injury or death.

**WARNING!**

Stand clear of vehicles when pulling with tow hooks. Tow straps and chains may break, causing serious injury.

**CAUTION!**

Tow hooks are for emergency use only, to rescue a vehicle stranded off road. Do not use tow hooks for tow truck hookup or highway towing. You could damage your vehicle.

**TOWING A DISABLED VEHICLE**

Proper towing or lifting equipment is required to prevent damage to your vehicle. Use of safety chains is recommended. **Attach towing device to main structural members of the vehicle — not to bumpers or associated brackets.** State and local laws applying to vehicles under tow must be observed.

**Four-Wheel Drive Vehicles**

The manufacturer recommends towing with all wheels **OFF** the ground. Acceptable methods are to tow the vehicle on a flatbed or with one end of the vehicle raised and the opposite end on a towing dolly.

### Two-Wheel Drive Vehicles

Provided that the transmission is operable, tow with the transmission in Neutral and the ignition key in the OFF position along with the front wheels raised and the rear wheels on the ground. The speed must not exceed 30 mph (50 km/h) and the distance must not exceed 15 miles (25 km).

If the vehicle is to be towed more than 15 miles (25 km ) or faster than 30 mph, it must be towed on a flatbed, or with the rear wheels raised and the front wheels on the ground, or with the front end raised and the rear wheels on a towing dolly.

**NOTE:** Towing the vehicle, with the rear wheels on the ground, at more than 30 mph (50 km/h) or for more than 15 miles (25 km ) can cause severe transmission damage.





# MAINTAINING YOUR VEHICLE

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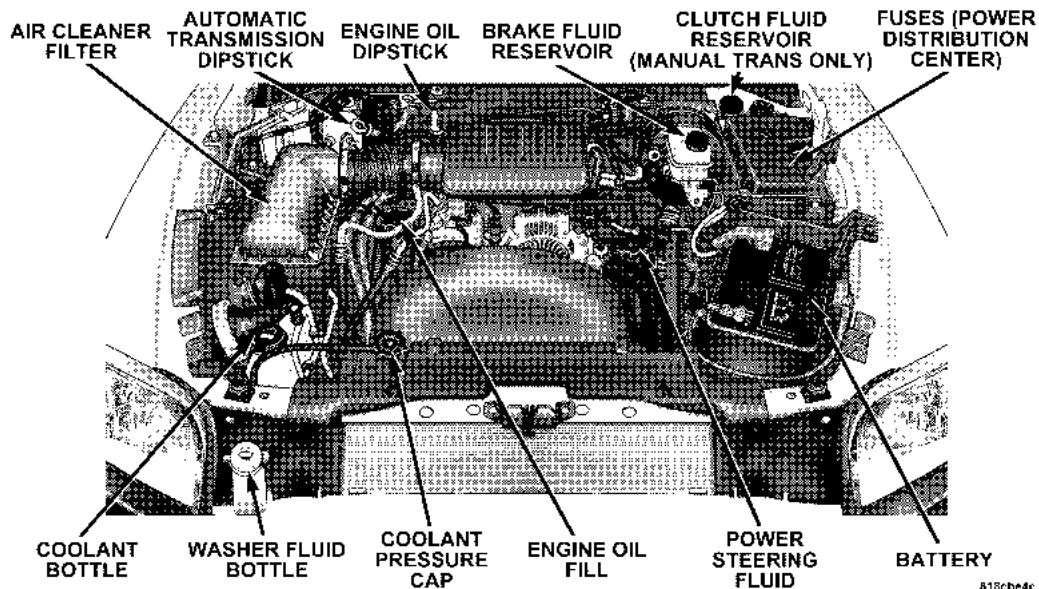
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### 3.7L/4.7L ENGINE COMPARTMENT



## ONBOARD DIAGNOSTIC SYSTEM — OBD II

Your vehicle is equipped with a sophisticated onboard diagnostic system called OBD II. This system monitors the performance of the emissions, engine, and automatic transmission control systems. When these systems are operating properly, your vehicle will provide excellent performance and fuel economy, as well as engine emissions well within current government regulations.

If any of these systems require service, the OBD II system will turn on the “Malfunction Indicator Light.” It will also store diagnostic codes and other information to assist your service technician in making repairs. Although your vehicle will usually be drivable and not need towing, see your dealer for service as soon as possible.

### CAUTION!

- **Prolonged driving with the “Malfunction Indicator Light” on could cause further damage to the emission control system. It could also affect fuel economy and driveability. The vehicle must be serviced before any emissions tests can be performed.**
- **If the “Malfunction Indicator Light” is flashing while the engine is running, severe catalytic converter damage and power loss will soon occur. Immediate service is required.**

### Loose Fuel Filler Cap Message

After fuel is added, the vehicle diagnostic system can determine if the fuel filler cap is loose, improperly installed, or damaged. A loose fuel filler cap message will be displayed in the instrument cluster. Tighten the gas

cap until a "clicking" sound is heard. This is an indication that the gas cap is properly tightened. Press the odometer reset button to turn the message off. If the problem persists, the message will appear the next time the vehicle is started. This might indicate a damaged cap. If the problem is detected twice in a row, the system will turn on the Malfunction Indicator Light (MIL). Resolving the problem will turn the MIL light off.

## EMISSIONS INSPECTION AND MAINTENANCE PROGRAMS

In some localities, it may be a legal requirement to pass an inspection of your vehicle's emissions control system. Failure to pass could prevent vehicle registration.



For states which have an I/M (Inspection and Maintenance) requirement, this check verifies the following: the MIL (Malfunction Indicator Lamp)

is functioning and is not on when the engine is running, and that the OBD (On Board Diagnostic) system is ready for testing.

Normally, the OBD system will be ready. The OBD system may **not** be ready if your vehicle was recently serviced, if you recently had a dead battery, or a battery replacement. If the OBD system is determined not ready for the I/M test, your vehicle may fail the test.

Your vehicle has a simple ignition key actuated test which you can use prior to going to the test station. To check if your vehicle's OBD system is ready, you must do the following:

1. Insert your ignition key into the ignition switch.
2. Turn the ignition to the ON position, but do not crank or start the engine. If you crank or start the engine, you will have to start this test over.

3. As soon as you turn your key to the ON position, you will see your MIL symbol come on as part of a normal bulb check.
4. Approximately 15 seconds later, one of two things will happen:
  - a. The MIL light will blink for approximately 5 seconds and then remain on until the first engine crank or the key is turned off. This means that your vehicle's OBD system is **not ready** and you should **not** proceed to the I/M station.
  - b. The MIL light will remain fully illuminated until the first engine crank or the key is turned off. This means that your vehicle's OBD system is **ready** and you can proceed to the I/M station.

If your OBD system is **not ready** you should see your dealer or repair facility. If your vehicle was recently serviced or had a battery failure or replacement, you may

need to do nothing more than drive your vehicle as you normally would in order for your OBD system to update. A recheck with the above test routine may then indicate that the system is now ready.

Regardless of whether your vehicle's OBD system is ready or not ready, if the MIL symbol is illuminated during normal vehicle operation, you should have your vehicle serviced before going to the I/M station. The I/M station can fail your vehicle because the MIL symbol is on with the engine running.

### REPLACEMENT PARTS

Use of genuine Mopar® parts for normal/scheduled maintenance and repairs is highly recommended to insure the designed performance. Damage or failures caused by the use of non-Mopar® parts for maintenance and repairs will not be covered by the manufacturer's warranty.

### DEALER SERVICE

Your dealer has the qualified service personnel, special tools and equipment to perform all service operations in an expert manner. Service manuals are available which include detailed service information for your vehicle. Refer to these manuals before attempting any procedure yourself.

**NOTE:** Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

### WARNING!

**You can be badly injured working on or around a motor vehicle. Do only that service work for which you have the knowledge and the proper equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.**

### MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides the maintenance items for which there are fixed maintenance intervals, there are other items that should operate satisfactorily without periodic maintenance. However, if a malfunction of these items does occur, it



could adversely affect the engine or vehicle performance. These items should be inspected if a malfunction is observed or suspected.

## Engine Oil

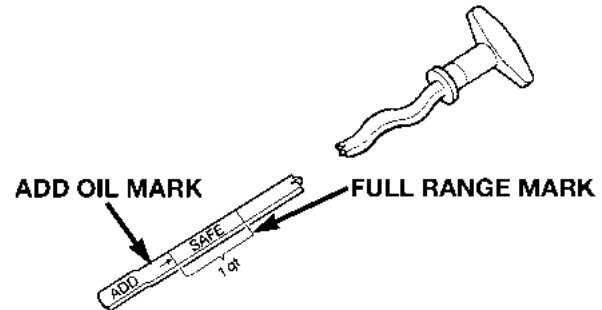
### Checking Engine Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. The best time to check the engine oil level is about 5 minutes after a fully warmed up engine is shut off or before starting the engine after it has sat overnight.

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Always maintain the oil level within the SAFE zone on the dipstick. Adding one quart of oil when the reading is at the bottom of the SAFE zone will result in a reading at the top of the safe zone on these engines.

### CAUTION!

Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.



### Change Engine Oil

Road conditions and your style of driving affect the interval at which your oil should be changed. Check the following to determine if **ANY** apply to you:

- Day or night temperatures are below 32°F (0°C).
- Stop and Go driving.
- Extensive engine idling.
- Driving in dusty conditions.
- Short trips of less than 10 miles (16.2 km).
- More than 50% of your driving is at sustained high speeds during hot weather, above 90°F (32°C).
- Trailer towing, Taxi, Police or delivery service (commercial service).
- Off-Road or desert operation.

- **If equipped for and operating with E-85 (ethanol) fuel.**

**NOTE:** If **ANY** of these apply to you then change your engine oil every 3,000 miles (5 000 km) or 3 months, whichever comes first and follow schedule "B" of the "Maintenance Schedules" section of this manual.

If **NONE** of these apply to you, then change your engine oil every 6,000 miles (10 000 km) or 6 months, whichever comes first and follow schedule "A" of the "Maintenance Schedules" section of this manual.

**NOTE:** Under no circumstances should oil change intervals exceed 6,000 miles (10 000 km) or 6 months whichever comes first.

*4x4 Models, If Used Primarily For Off-Road Operation*  
Every 50 hours of use.

### Dusty Conditions

Driving through dust-laden air increases the problems of keeping abrasive materials out of the engine. Under these conditions, special attention should be given to the engine air cleaner. The crankcase ventilation system should also be checked periodically. Make sure that these units are always clean. This will tend to reduce to a minimum the amount of abrasive material that may enter the engine.

### Engine Oil Selection

For best performance and maximum protection under all types of operating conditions, the manufacture only recommends engine oils that are API certified and meet the requirements of DaimlerChrysler Material Standard MS-6395.

### American Petroleum Institute (API) Engine Oil Identification Symbol



This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacture only recommends API Certified engine oils.

### Engine Oil Viscosity (SAE Grade)

SAE 5W-20 engine oil is recommended for all operating temperatures. This engine oil improves low temperature starting and vehicle fuel economy. Your engine oil filler cap also shows the recommended engine oil viscosity for your vehicle.

For information on engine oil filler cap location, see the Engine Compartment illustration in this section.

Lubricants which do not have both, the engine oil certification mark and the correct SAE viscosity grade number should not be used.

### **Synthetic Engine Oils**

You may use synthetic engine oils provided the recommended oil quality requirements are met, and the recommended maintenance intervals for oil and filter changes are followed.

### **Materials Added to Engine Oils**

The manufacture strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and it's performance may be impaired by supplemental additives.

### **Disposing of Used Engine Oil And Oil Filters**

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the

environment. Contact your dealer, service station, or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### **Engine Oil Filter**

The engine oil filter should be replaced at every engine oil change.

### **Engine Oil Filter Selection**

The manufacturer's engines have a full-flow type oil filter. Use a filter of this type for replacement. The quality of replacement filters varies considerably. Only high quality filters should be used to assure most efficient service. Mopar® Engine Oil Filters are a high quality oil filter and are recommended.

### Drive Belts — Check Condition and Tension

Belt tension is controlled by means of an automatic tensioner. No belt tension adjustments are required. However, belt and belt tensioner condition should be inspected at the specified intervals, and replaced if required. See your authorized dealer for service

At the mileage indicated in the maintenance schedule, all belts and tensioner should be checked for condition. Improper belt tension can cause belt slippage and failure.

Belts should be inspected for evidence of cuts, cracks, glazing, or frayed cords and replaced if there is indication of damage which could result in belt failure. Low generator belt tension can cause battery failure.

Also check belt routing to make sure there is no interference between the belts and other engine components.

### Spark Plugs

Spark plugs must fire properly to assure proper engine performance and emission control. The plugs installed in your vehicle should operate satisfactorily in normal service for the mileage indicated in the Maintenance Chart. New plugs should be installed at this mileage. The entire set should be replaced if there is any malfunction due to a faulty spark plug. Check the Vehicle Emissions Control Information label for the proper type of spark plug for your vehicle.

#### CAUTION!

**When replacing plugs, do not overtighten. You could damage them and cause them to leak.**

### Engine Air Cleaner Filter

Under normal driving conditions, replace the air filter at the intervals shown on Schedule "A". If, however, you drive the vehicle frequently under dusty or severe conditions, the filter element should be inspected periodically and replaced if necessary at the intervals shown on Schedule "B".

#### **WARNING!**

**The air cleaner can provide a measure of protection in the case of engine backfire. Do not remove the air cleaner unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air cleaner removed. Failure to do so can result in serious personal injury.**

### Engine Fuel Filter

A plugged fuel filter can cause stalling, limit the speed at which a vehicle can be driven or cause hard starting. Should an excessive amount of dirt accumulate in the fuel tank, frequent filter replacement may be necessary.

### Catalytic Converter

The catalytic converter requires the use of unleaded fuel only. Leaded gasoline will destroy the effectiveness of the catalyst as an emission control device.

Under normal operating conditions, the catalytic converter will not require maintenance. However, it is important to keep the engine properly tuned to assure proper catalyst operation and prevent possible catalyst damage.

**CAUTION!**

Damage to the catalytic converter can result if your vehicle is not kept in proper operating condition. In the event of engine malfunction, particularly involving engine misfire or other apparent loss of performance, have your vehicle serviced promptly. Continued operation of your vehicle with a severe malfunction could cause the converter to overheat, resulting in possible damage to the converter and the vehicle.

**NOTE:** Intentional tampering with emissions control systems can result in civil penalties being assessed against you.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

In unusual situations involving grossly malfunctioning engine operation, a scorching odor may indicate severe and abnormal catalyst overheating. If this occurs, the vehicle should be stopped, the engine shut off and the vehicle allowed to cool. Thereafter, service, including a tune-up to manufacturer's specifications, should be obtained immediately.

To minimize the possibility of catalyst damage:

- Do not shut off the engine or interrupt the ignition when the transmission is in gear and the vehicle is in motion.
- Do not try to start engine by pushing or towing the vehicle.
- Do not idle the engine with any spark plug wires disconnected or removed, such as when diagnostic testing, or for prolonged periods during very rough idling or malfunctioning operating conditions.

### **Maintenance Free Battery**

The top of the maintenance free battery is permanently sealed. You will never have to add water, nor is periodic maintenance required.

### **WARNING!**

- **Battery fluid is a corrosive acid solution and can burn or even blind you. Don't allow battery fluid to contact your eyes, skin or clothing. Don't lean over a battery when attaching clamps. If acid splashes in eyes or on skin, flush the area immediately with large amounts of water.**
- **Battery gas is flammable and explosive. Keep flame or sparks away from the battery. Don't use a booster battery or any other booster source with an output greater than 12 volts. Don't allow cable clamps to touch each other.**
- **Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.**



**CAUTION!**

- It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and identified on the battery case.
- If a "fast charger" is used while battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to battery. Do not use a "fast charger" to provide starting voltage.

**Air Conditioner Maintenance**

For best possible performance, your air conditioner should be checked and serviced by an Authorized Dealer at the start of each warm season. This service should include cleaning of the condenser fins and a performance test. Drive belt tension should also be checked at this time.

**WARNING!**

- Use only refrigerants and compressor lubricants approved by the manufacturer for your air conditioning system. Some unapproved refrigerants are flammable and can explode, injuring you. Other unapproved refrigerants or lubricants can cause the system to fail, requiring costly repairs. Refer to Section 3 of the Warranty Information book for further warranty information.
- The air conditioning system contains refrigerant under high pressure. To avoid risk of personal injury or damage to the system, adding refrigerant or any repair requiring lines to be disconnected should be done by an experienced repairman.

### Refrigerant Recovery and Recycling

R-134a Air Conditioning Refrigerant is a hydrofluorocarbon (HFC) that is endorsed by the Environmental Protection Agency and is an ozone-saving product. However, the manufacturer recommends that air conditioning service be performed by dealers or other service facilities using recovery and recycling equipment.

### Power Steering — Fluid Check

Checking the power steering fluid level at a defined service interval is not required. The fluid should only be checked if a leak is suspected, abnormal noises are apparent, and/or the system is not functioning as anticipated. Coordinate inspection efforts through a certified DaimlerChrysler Dealership."

### WARNING!

**Fluid level should be checked on a level surface and with the engine off to prevent injury from moving parts and to insure accurate fluid level reading. Do not overfill. Use only manufacturers recommended power steering fluid.**

If necessary, add fluid to restore to the proper indicated level. With a clean cloth, wipe any spilled fluid from all surfaces. Refer to Fluids, Lubricants, and Genuine Parts for correct fluid type.

### Front Suspension Ball Joints

The ball joints and seals should be inspected whenever the vehicle is serviced for other reasons. Damaged seals should be replaced to prevent leakage or contamination of the grease.

### **Drive Shaft Constant Velocity Joints**

All four wheel drive models are equipped with four constant velocity joints. Periodic lubrication of these joints is not required. However, the joint boot should be inspected for external leakage or damage periodically. If external leakage or damage is evident, the joint boot and grease should be replaced immediately. Continued operation could result in failure of the joint due to water and dirt contamination of the grease. This would require complete replacement of the joint assembly. Refer to the Service Manual for the detailed replacement procedure.

### **Body Lubrication**

Locks and all body pivot points, including such items as seat tracks, doors and hood hinges, should be lubricated periodically to assure quiet, easy operation and to protect against rust and wear. Prior to the application of any lubricant, the parts concerned should be wiped clean to remove dust and grit; after lubricating excess oil and grease should be removed. Particular attention should

also be given to hood latching components to insure proper function. When performing other underhood services, the hood latch, release mechanism and safety catch should be cleaned and lubricated.

The external lock cylinders should be lubricated twice a year, preferably in the fall and spring. Apply a small amount of a high quality lubricant such as Mopar® Lock Cylinder Lubricant directly into the lock cylinder.

### **Windshield Wiper Blades**

The rubber edges of the wiper blades and the windshield should be cleaned periodically with a sponge or soft cloth and a mild nonabrasive cleaner. This will remove accumulations of salt or road film.

Operation of the wipers on dry glass for long periods may cause deterioration of the wiper blades. Always use washer fluid when using the wipers to remove salt or dirt from a dry windshield.

Avoid using the wiper blades to remove frost or ice from the windshield. Keep the blade rubber out of contact with petroleum products such as engine oil, gasoline, etc.

### Windshield Washers

The fluid reservoir should be checked for fluid level at regular intervals. When freezing weather is anticipated, flush out the water in the reservoir by operating the system. Fill the reservoir with windshield washer anti-freeze (not radiator antifreeze), and operate the system for a few seconds to flush out the residual water.

To prevent freeze-up of your windshield washer system in cold weather, select a solution or mixture that meets or exceeds the temperature range of your climate. This rating information can be found on most washer fluid containers.

### WARNING!

**Commercially available windshield washer solvents are flammable. They could ignite and burn you. Care must be exercised when filling or working around the washer solution.**

After the engine has warmed, operate the defroster for a few minutes to reduce the possibility of smearing or freezing the fluid on the cold windshield. Mopar® All Weather Windshield Washer Solution used with water as directed on the container, aids cleaning action, reduces freezing point to avoid line clogging, and is not harmful to paint or trim.

## Exhaust System

The best protection against carbon monoxide entry into the vehicle body is a properly maintained engine exhaust system.

Whenever a change is noticed in the sound of the exhaust system, when exhaust fumes can be detected inside the vehicle, or when the underside or rear of the vehicle is damaged, have a competent mechanic inspect the complete exhaust system and adjacent body areas for broken, damaged, deteriorated, or mispositioned parts. Open seams or loose connections could permit exhaust fumes to seep into the passenger compartment. In addition, inspect the exhaust system each time the vehicle is raised for lubrication or oil change. Replace as required.

### WARNING!

**Exhaust gases can injure or kill. They contain carbon monoxide (CO) which is colorless and odorless. Breathing it can make you unconscious and can eventually poison you. To avoid breathing CO, follow the preceding safety tips.**

## Cooling System

### WARNING!

**You or others can be badly burned by hot coolant or steam from your radiator. If you see or hear steam coming from under the hood, don't open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.**

### Engine Coolant Checks

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If coolant is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser for any

accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the condenser.

Check the coolant recovery bottle tubing for brittle rubber, cracking, tears, cuts and tightness of the connection at the bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of coolant from the radiator drain cock. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant recovery bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

### Cooling System — Drain, Flush and Refill

At the intervals shown on the Maintenance Schedules, the system should be drained, flushed and refilled.

If the solution is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old antifreeze solution.

### Selection Of Coolant

Use only the manufacturers recommended coolant, refer to Fluids, Lubricants and Genuine Parts for correct coolant type.

### CAUTION!

Mixing of coolants other than specified HOAT engine coolants, may result in engine damage and may decrease corrosion protection. If a non-HOAT coolant is introduced into the cooling system in an emergency, it should be replaced with the specified coolant as soon as possible.

Do not use plain water alone or alcohol base engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.

This vehicle has not been designed for use with Propylene Glycol based coolants. Use of Propylene Glycol based coolants is not recommended.

### Adding Coolant

Your vehicle has been built with an improved engine coolant that allows extended maintenance intervals. This coolant can be used up to 5 Years or 100,000 miles before replacement. To prevent reducing this extended maintenance period, it is important that you use the same coolant throughout the life of your vehicle. Please review these recommendations for using Hybrid Organic Additive Technology (HOAT) coolant.

When adding coolant, a minimum solution of 50% recommended Mopar Antifreeze/ Coolant 5 Year/100,000 Mile Formula HOAT (Hybrid Organic Additive Technology), or equivalent, in water should be used. Use higher concentrations (not to exceed 70%) if temperatures below  $-34^{\circ}\text{F}$  ( $-37^{\circ}\text{C}$ ) are anticipated.

Use only high purity water such as distilled or deionized water when mixing the water/engine coolant solution.

The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:** Mixing coolant types will decrease the life of the engine coolant and will require more frequent coolant changes.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of coolant, and to insure that coolant will return to the radiator from the coolant recovery bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.



**WARNING!**

- **The warning words “DO NOT OPEN HOT” on the cooling system pressure cap are a safety precaution. Never add coolant when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.**
- **Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.**

**Disposal of Used Engine Coolant**

Used ethylene glycol based engine coolant is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children

do not store ethylene glycol based engine coolant in open containers or allow it to remain in puddles on the ground. If ingested by a child, contact a physician immediately. Clean up any ground spills immediately.

**Coolant Level**

The coolant bottle provides a quick visual method for determining that the coolant level is adequate. With the engine cold, the level of the coolant in the coolant recovery bottle should be between the ranges indicated on the bottle.

The radiator normally remains completely full, so there is no need to remove the radiator cap unless checking for coolant freeze point or replacing coolant. Advise your service attendant of this. As long as the engine operating temperature is satisfactory, the coolant bottle need only be checked once a month.

When additional coolant is needed to maintain the proper level, it should be added to the coolant bottle. Do not overfill.

### Points To Remember

**NOTE:** When the vehicle is stopped after a few miles (a few kilometers) of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot coolant to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant recovery bottle.

- Check coolant freeze point in the radiator and in the coolant recovery bottle. If antifreeze needs to be added, contents of coolant recovery bottle must also be protected against freezing.
- If frequent coolant additions are required, or if the level in the coolant recovery bottle does not drop when the engine cools, the cooling system should be pressure tested for leaks.
- Maintain coolant concentration at 50% HOAT engine coolant (minimum) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the radiator and coolant recovery bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean, also.

- Do not change the thermostat for summer or winter operation. If replacement is ever necessary, install **ONLY** the correct type thermostat. Other designs may result in unsatisfactory coolant performance, poor gas mileage, and increased emissions.

### **Emission Related Components**

#### **Fuel System Hoses And Vapor/Vacuum Harnesses**

When the vehicle is serviced for scheduled maintenance, inspect surface of hoses and nylon tubing for evidence of heat and mechanical damage. Hard and brittle rubber, cracking, checking, tears, cuts, abrasions, and excessive swelling suggest deterioration of the rubber. Particular attention should be given to examining hose surfaces nearest to high heat sources, such as the exhaust manifold.

Insure nylon tubing in these areas has not melted or collapsed.

Inspect all hose clamps and couplings to make sure they are secure and no leaks are present.

You are urged to use only the manufacturer's specified hoses and clamps, or their equivalent in material and specification, in any fuel system servicing. It is mandatory to replace all clamps that have been loosened or removed during service. Care should be taken in installing new clamps to insure they are properly torqued.

#### **Positive Crankcase Ventilation (PCV) Valve**

Proper operation of the crankcase ventilation system requires that the PCV valve be free of sticking or plugging because of deposits. Deposits can accumulate in the PCV valve and passage with increasing mileage. Have the PCV valve, hoses, and passages checked for proper operation at the intervals specified. If the valve is plugged or sticking, replace with a new valve – **Do not**

**attempt to clean the oil PCV valve!** Check ventilating hose for indication of damage or plugging with deposits. Replace if necessary.

## Brake System

### Power Disc Brakes (Front)

Disc brakes do not require adjustment; however, several hard stops during the break-in period are recommended to seat the linings and wear off any foreign material.

### Brake Master Cylinders

The fluid level in the master cylinders should be checked whenever the vehicle is serviced, or immediately if the brake system warning light is on. If necessary, add fluid to bring level to the full mark on the side of the reservoir of the brake master cylinder. Be sure to clean the top of the master cylinder area before removing the cap. With disc brakes, fluid level can be expected to fall as the brake

pads wear. Brake fluid level should be checked when pads are replaced. If the brake fluid level is abnormally low, check system for leaks.

Refer to Fluids, Lubricants and Genuine Parts for correct fluid type.

### **WARNING!**

**Use of brake fluid that may have a lower initial boiling point, or is unidentified as to specifications, may result in sudden brake failure during hard prolonged braking. You could have an accident.**

**WARNING!**

Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts and the brake fluid catching fire.

Use only brake fluid that has been in a tightly closed container to avoid contamination from foreign matter or moisture.

**CAUTION!**

Do not allow a petroleum-base fluid to contaminate the brake fluid. Seal damage may result.

**Brake Linings**

Your vehicle is equipped with self-adjusting brakes. During normal driving, a few brake applications while

moving in reverse will maintain your brakes at the specified adjustment. Adjustment will continue until the brake linings are worn. To avoid brake failure, brake pull or damage to the rotors or drums, inspect the brake linings as specified in the maintenance schedule. If excessively worn, the brake linings must be replaced.

**Brake Hoses**

Inspection should be performed whenever the brake system is serviced or at intervals specified. Inspect hydraulic brake hoses for surface cracking, scuffing or worn spots. If there is any evidence of cracking, scuffing, or worn spots, the hose should be replaced immediately! Eventual deterioration of the hose can take place with possible burst failure.

**WARNING!**

**Worn brake hoses can burst and cause brake failure. You could have an accident. If you see any sign of cracking, scuffing, or worn spots, have the brake hoses replaced immediately.**

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance free system. In the event of leakage or other malfunction, the system must be replaced.

**Manual Transmission****Fluid Level Check**

This fluid should be checked whenever other underhood services are performed. The fluid level is checked by removing the fill plug. If the level of the lubricant is more than 1/4" (6.35 mm) below the bottom of the filler hole while the vehicle is level, enough lubricant should be

added to bring the level to the bottom of the filler hole. This fluid does not require periodic changing. However, if it becomes necessary to add or replace the fluid in these transmissions, refer to Fluids, Lubricants and Genuine Parts for correct fluid type.

**Automatic Transmission****Fluid Level Check**

Check the fluid level while the transmission is at normal operating temperature 180°F (82°C). This occurs after at least 15 miles (24 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips.

To check the automatic transmission fluid level properly, the following procedure must be used:

1. Operate the engine at idle speed and normal operating temperature.
2. The vehicle must be on level ground.

3. Fully apply the parking brake and press the brake pedal.
4. Place the gear selector momentarily in each gear position ending with the lever in P (Park).
5. Remove the dipstick, wipe it clean and reinsert it until seated.
6. Remove the dipstick again and note the fluid level on both sides. The fluid level should be between the "HOT" (upper) reference holes on the dipstick at normal operating temperature. Verify that solid coating of oil is seen on both sides of the dipstick. If the fluid is low, add as required into the dipstick tube. **Do not overfill.** After adding any quantity of oil through the oil fill tube, wait a minimum of two (2) minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be

between the two "COLD" (lower) holes on the dipstick with the fluid at approximately 70°F ( 21°C) (room temperature). If the fluid level is correctly established at room temperature, it should be between the "HOT" (upper) reference holes when the transmission reaches 180°F ( 82°C). Remember it is best to check the level at the normal operating temperature.

### CAUTION!

**Be aware that if the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an accurate reading.**

7. Check for leaks. Release parking brake.

To prevent dirt and water from entering the transmission after checking or replenishing fluid, make certain that the

dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

### **Automatic Transmission Fluid And Filter Change**

To obtain best performance and long life for automatic transmissions, the manufacturer recommends that they be given regular maintenance service by an Authorized Dodge Dealer or Service Center. It is important that the transmission fluid be maintained at the correct level and that it be drained and refilled as specified.

Follow the proper Maintenance Schedule for your type of driving.

It is important that proper lubricant is used in the transmission. Refer to Fluids, Lubricants and Genuine Parts for correct fluid type. It is important that the transmission fluid be maintained at the prescribed level using the recommended fluid.

### **CAUTION!**

**Using a transmission fluid other than the manufacturers recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder. Using a transmission fluid other than the manufacturers recommended fluid will result in more frequent fluid and filter changes. Refer to Fluids, Lubricants and Genuine Parts for correct fluid type.**

### **Special Additives**

The manufacturer strongly recommends against the addition of any additives to the transmission. Exception to this policy is the use of special dyes to aid in detecting fluid leaks. The use of transmission sealers should be avoided, since they may adversely affect seals.



### Transfer Case

Inspect the transfer case for fluid leaks. If a fluid leak is evident the transfer case fluid level may be low. Have the transfer case serviced immediately.

#### CAUTION!

**Damage may result from operation of the vehicle with low transfer case fluid.**

The transfer case fluid should be drained and refilled at the intervals specified.

### Lubricant Selection

Refer to Fluids, Lubricants and Genuine Parts for correct fluid type.

### Axles

Refer to Fluids, Lubricants and Genuine Parts for correct fluid type.

The manufacturer does not recommend regularly scheduled oil changes for axles in vehicles whose operation is classified as normal truck service.

**NOTE:** The presence of water in the gear lubricant will result in corrosion and possible failure of differential components. Operation of the vehicle in water, as may be encountered in some off-highway types of service, will require draining and refilling the axle to avoid damage.

### Rear Axle

Rear Axle Limited-slip differentials require the use of Mopar limited-slip additive. Refer to Recommended Fluids, Lubricants and Genuine Parts for correct fluid type. This should be added to the gear lubricant whenever a fluid change is made, when equipped with limited-slip

differential. Rear axle fluid level should be 1/4" (6.4mm) below filler plug for 8 1/4", and 9 1/4" axles.

### Front Axle

Front Axle fluid level should be at the bottom of the fill plug.

### Selection of Lubricating Grease

The National Lubricating Grease Institute (NLGI) has developed a symbol (Certification Mark) to aid the vehicle owner in the proper selection of grease for chassis components. This symbol, an example shown below, is located on the grease container and identifies the application and quality of the grease.



There are two groups identified, those for wheel bearings (Letter "G") and those for chassis (Letter "L") lubrication. Performance categories within these groups result in dual letter designations for each group. The letter designations shown in the example are the highest quality level available and when combined as shown can be used for chassis lubrication. Use only those greases that have the NLGI symbol on the container along with the proper quality level for your application.

## Appearance Care and Protection from Corrosion

### Protection of Body and Paint from Corrosion

Vehicle body care requirements vary according to geographic locations and usage. Chemicals that make roads passable in snow and ice, and those that are sprayed on trees and road surfaces during other seasons, are highly corrosive to the metal in your vehicle. Outside parking, which exposes your vehicle to airborne contaminants, road surfaces on which the vehicle is operated, extreme hot or cold weather and other extreme conditions will have an adverse effect on paint, metal trim, and underbody protection.

The following maintenance recommendations will enable you to obtain maximum benefit from the corrosion resistance built into your vehicle.

### What Causes Corrosion?

Corrosion is the result of deterioration or removal of paint and protective coatings from your vehicle.

The most common causes are:

- Road salt, dirt and moisture accumulation.
- Stone and gravel impact.
- Insects, tree sap and tar.
- Salt in the air near seacoast localities.
- Atmospheric fallout/industrial pollutants.

### Washing

- Wash your vehicle regularly. Always wash your vehicle in the shade using a mild car wash soap, and rinse the panels completely with clear water.
- If insects, tar or other similar deposits have accumulated on your vehicle, wash it as soon as possible.
- Use Mopar<sup>®</sup> auto polish to remove road film and stains and to polish your vehicle. Take care never to scratch the paint.

- Avoid using abrasive compounds and power buffing that may diminish the gloss or thin out the paint finish.

**CAUTION!**

**Do not use abrasive or strong cleaning materials such as steel wool or scouring powder, which will scratch metal and painted surfaces.**

**Special Care**

- If you drive on salted or dusty roads or if you drive near the ocean, hose off the undercarriage at least once a month.
- It is important that the drain holes in the lower edges of the doors, rocker panels be kept clear and open.
- If you detect any stone chips or scratches in the paint, touch them up immediately. The cost of such repairs is considered the responsibility of the owner.
- If your vehicle is damaged due to an accident or similar cause which destroys the paint and protective coating have your vehicle repaired as soon as possible. The cost of such repairs is considered the responsibility of the owner.
- If you carry special cargo such as chemicals, fertilizers, de-icer salt, etc., be sure that such materials are well packaged and sealed.
- If a lot of driving is done on gravel roads, consider mud or stone shields behind each wheel.
- Use Mopar® touch up paint on scratches as soon as possible. Your dealer has touch up paint to match the color of your vehicle.

### Wheel and Wheel Trim Care

All wheels and wheel trim, especially aluminum and chrome plated wheels should be cleaned regularly with a mild soap and water to prevent corrosion. To remove heavy soil, use Mopar Wheel Cleaner or select a nonabrasive, non-acidic cleaner. Do not use scouring pads, steel wool, a bristle brush or metal polishes. Only Mopar cleaners are recommended. Do not use oven cleaner. Avoid automatic car washes that use acidic solutions or harsh brushes that may damage the wheels' protective finish.

### YES Essentials® Fabric Cleaning Procedure – If Equipped

YES Essentials® seats may be cleaned in the following manner:

- Remove as much of the stain as possible by blotting with a clean, dry towel.
- Blot any remaining stain with a clean, damp towel.

- For tough stains, apply Mopar Total Clean or a mild soap solution to a clean, damp cloth and remove stain. Use a fresh, damp towel to remove soap residue.
- For grease stains, apply Mopar Multi-purpose cleaner to a clean, damp cloth and remove stain. Use a fresh, damp towel to remove soap residue.
- Do not use any solvents or protectants on Yes Essentials products.

### Interior Care

Use Mopar® Fabric Cleaner to clean fabric upholstery and carpeting.

Use Mopar® Vinyl Cleaner to clean vinyl upholstery and trim.

Mopar® Total Clean is specifically recommended for leather upholstery.

Your leather upholstery can be best preserved by regular cleaning with a damp soft cloth. Small particles of dirt can act as an abrasive and damage the leather upholstery and should be removed promptly with a damp cloth. Stubborn soils can be removed easily with a soft cloth and Mopar® Total Clean. Care should be taken to avoid soaking your leather upholstery with any liquid. Please do not use polishes, oils, cleaning fluids, solvents, detergents, or ammonia based cleaners to clean your leather upholstery. Application of a leather conditioner is not required to maintain the original condition.

**WARNING!**

**Do not use volatile solvents for cleaning purposes. Many are potentially flammable, and if used in closed areas they may cause respiratory harm.**

**Glass Surfaces**

All glass surfaces should be cleaned on a regular basis with any commercial household-type glass cleaner. Never use an abrasive type cleaner. Use caution when cleaning inside rear windows equipped with electric defrosters or windshields equipped with a windshield wiper de-icer. Do not use scrapers or other sharp instruments which may scratch the elements.

When cleaning the rear view mirror, spray cleaner on the towel or rag that you are using. Do not spray cleaner directly on the mirror.

**Cleaning Plastic Instrument Cluster Lenses**

The lenses in front of the instruments in this vehicle are molded in clear plastic. When cleaning the lenses, care must be taken to avoid scratching the plastic.

1. Clean with a wet soft rag. A mild soap solution may be used, but do not use high alcohol content or abrasive cleaners. If soap is used, wipe clean with a clean damp rag.

2. Dry with a soft tissue.

### Seat Belt Maintenance

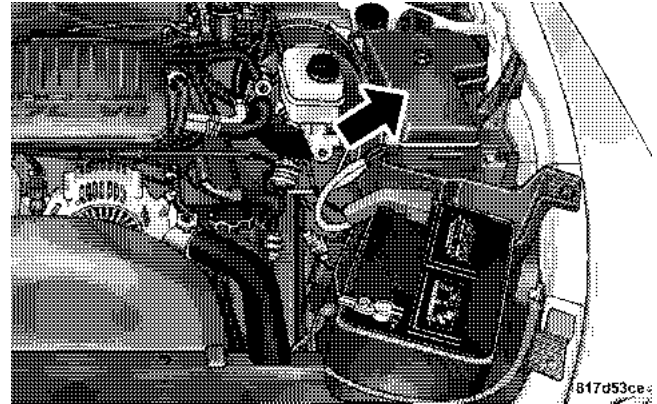
Do not bleach, dye or clean the belts with chemical solvents or abrasive cleaners. This will weaken the fabric. Sun damage will also weaken the fabric.

If the belts need cleaning, use a mild soap solution or lukewarm water. Do not remove the belts from the car to wash them.

Replace the belts if they appear frayed or worn or if the buckles do not work properly.

### FUSES (POWER DISTRIBUTION CENTER)

Your vehicle is equipped with an electrical power distribution center located on the left side of the engine compartment.



Power Distribution Center

These power distribution centers house new plug-in "Cartridge" fuses which replace all the in-line fusible links previously used. The power distribution centers also contain "Mini" fuses and plug-in "ISO" relays. These fuses and relays can be obtained from your dealer.

Cavity	Cartridge Fuse	Mini Fuse	Description
1			Spare
2	40 Amp Green		Ignition Accessory (ACC)
3	30 Amp Pink		Electric Brake
4	50 Amp Red		Power Seat
5	40 Amp Green		Ignition Run Only
6		20 Amp Yellow	Ignition Off Draw (IOD) Cabin Compartment Node (CCN), Radio

Cavity	Cartridge Fuse	Mini Fuse	Description
7		10 Amp Red	Powertrain Control Module (PCM)/Fuel/RAD/AC Coils
8		10 Amp Red	Cabin Compartment Node (CCN)/Mirror/4x4
9		10 Amp Red	Airbag System #3
10			Spare
11		10 Amp Red	AC Clutch
12		15 Amp Blue	T Tow Lt Stop/Turn
13		15 Amp Blue	Trailer Tow Rt Stop/Turn
14		20 Amp Yellow	Ignition Off Draw (IOD) #2
15		25 Amp Natural	Trans/Powertrain Control Module (PCM)



Cavity	Cartridge Fuse	Mini Fuse	Description
16		20 Amp Yellow	Horn
17		20 Amp Yellow	ABS Feed (Valves)
18		20 Amp Yellow	Fuel Pump
19		15 Amp Blue	Center High Mounted Stop Lamp (CHMSL)
20		20 Amp Yellow	Cabin Compartment Node (CCN) Door Locks/Brake Transmission Shift Interlock (BTSI)
21		25 Amp Natural	Audio Amp
22		20 Amp Yellow	Power Outlet (Switchable)
23		20 Amp Yellow	Fog Lamps

Cavity	Cartridge Fuse	Mini Fuse	Description
24		20 Amp Yellow	Powertrain Control Module (PCM) B+
25		15 Amp Blue	Cabin Compartment Node (CCN) Illumination
26			Spare
27		10 Amp Red	Power Mirror
28		20 Amp Yellow	Power Outlet
29		20 Amp Yellow	Front Control Module (FCM) 4 (Wipers)
30			Spare
31			Spare
32	30 Amp Pink		Front Control Module (FCM) 1 (Ext. Lights # 1)
33	30 Amp Pink		Auto Shut Down (ASD)

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Cavity	Cartridge Fuse	Mini Fuse	Description
34	30 Amp Pink		Front Control Module (FCM) 2 (Ext. Light # 2)
35	40 Amp Green		HVAC Blower Motor
36		10 Amp Red	Ignition UNLK/RN/ST
37		10 Amp Red	Crank
38	20 Amp Blue		Run/Start
39	30 Amp Pink		Starter Solenoid
40			Spare
41	30 Amp Pink		Wiper Motor
42		25 Amp Natural	Front Control Module (FCM) 5 (T-Case)
43		10 Amp Red	Lt Park Lamps

Cavity	Cartridge Fuse	Mini Fuse	Description
44		10 Amp Red	Rt Park Lamps
45		20 Amp Yellow	Trailer Tow Park Lamps
46		10 Amp Red	Airbag System # 2
47	40 Amp Green		Ignition Run/Accessory (Acc)
48	20 Amp Blue		Sunroof/Sound Box
49	30 Amp Pink		Trailer Tow B+
50	40 Amp Green		Anti-Lock Brake System (ABS) Module (Pump)
51	40 Amp Green		Park Lamps
52			Spare
53	40 Amp Green		Rear Defogger

Cavity	Cartridge Fuse	Mini Fuse	Description
54			Spare
55		10 Amp Red	Cabin Compartment Node (CCN) Accessory (ACC) Feed
56		10 Amp Red	Heated Seats
57		20 Amp Yellow	Airbag System # 2
58		20 Amp Yellow	Heated Seats
59		10 Amp Red	HVAC Module
60		10 Amp Red	ABS Module
61		20 Amp Yellow	Front Control Module (FCM) 3 (Reverse Lamps)

### CAUTION!

When replacing a blown fuse, it is important to use only a fuse having the correct amperage rating. The use of a fuse with a rating other than indicated may result in a dangerous electrical system overload. If a properly rated fuse continues to blow, it suggests a problem in the circuit that must be corrected.

**NOTE:** If you are leaving your vehicle dormant for longer than 21 days you may want to take steps to protect your battery. You may do this by disconnecting the battery or by disconnecting the two ignition-off draw (I.O.D.) fuses located in the Auxiliary Power Distribution Center (PDC) located in the engine compartment. The I.O.D. cavities include a snap-in retainer that allows the fuse to be disconnected, without removing it from the fuse block. Pressing the I.O.D. fuse back into the cavity reconnects it.

## VEHICLE STORAGE

If you are storing your vehicle for more than 21 days, we recommend that you take the following steps to minimize the drain on your vehicle's battery:

- Disconnect the Ignition-Off Draw fuse (I.O.D.) fuse located in the Power Distribution Center (PDC). The I.O.D. cavity includes a snap-in retainer that allows the fuse to be disconnected, without removing it from the fuse block.
- The transfer case should be placed in the 4HI mode and kept in this position to minimize the battery drain.
- As an alternative to the above steps you may disconnect the negative cable from the battery.

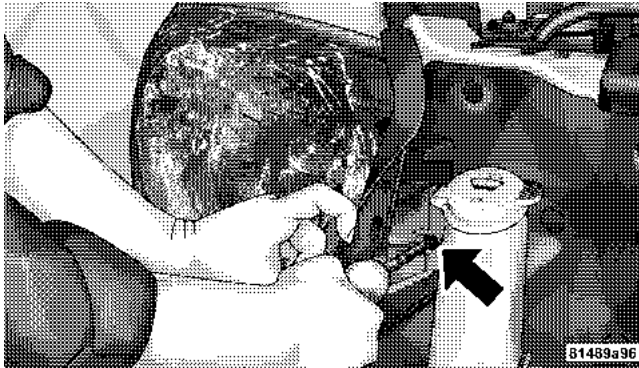
## REPLACEMENT LIGHT BULBS

<b>LIGHT BULBS — Interior</b>	<b>Bulb No.</b>
Dome Light . . . . .	WL212-2
Cargo Light . . . . .	567
Overhead Console Lights . . . . .	192
Reading Light . . . . .	WL212-2

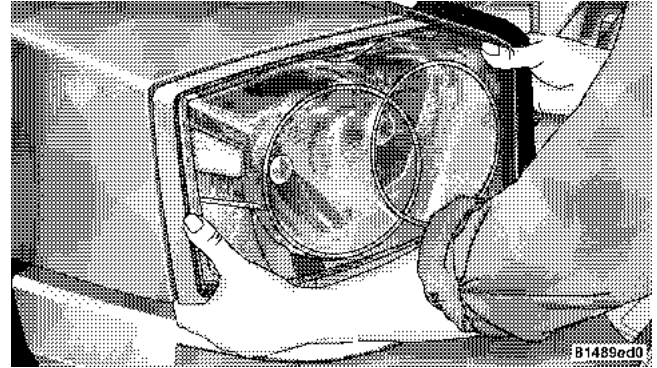
<b>LIGHT BULBS — Outside</b>	<b>Bulb No.</b>
Headlight . . . . .	H13
Front Park/Turn/Sidemarkers . . . . .	3157NA
Back-Up . . . . .	3157
Center High Mounted Stoplight . . . . .	921
Fog Lamp . . . . .	9145
Rear Sidemarkers . . . . .	168
License Plate Light . . . . .	168
Rear Tail, Stop, Turn Signal . . . . .	3057

## BULB REPLACEMENT

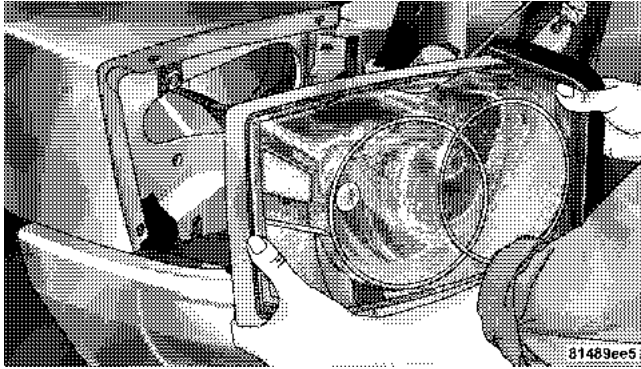
### Headlamps



Removing Attaching Screw



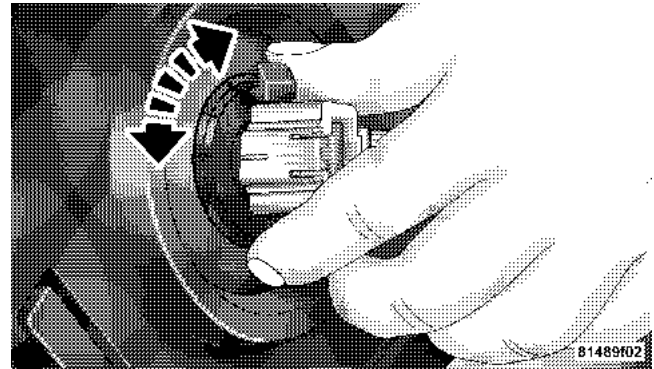
Removing Headlamp Assembly



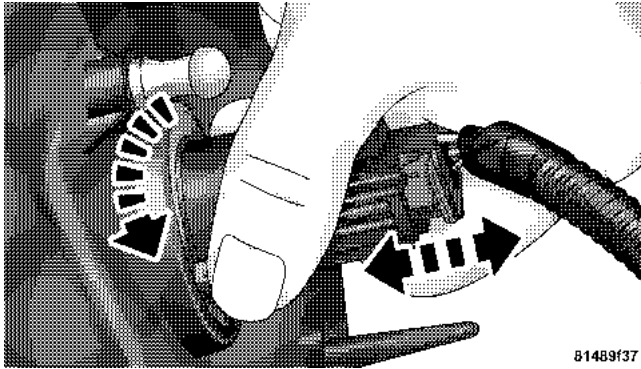
### Removing Headlamp Assembly

1. Open the hood.
2. Remove the 3 screws attaching the headlamp housing to the inner panel.
3. Grasp the headlamp and pull firmly to disengage the headlamp housing from the fender panel.

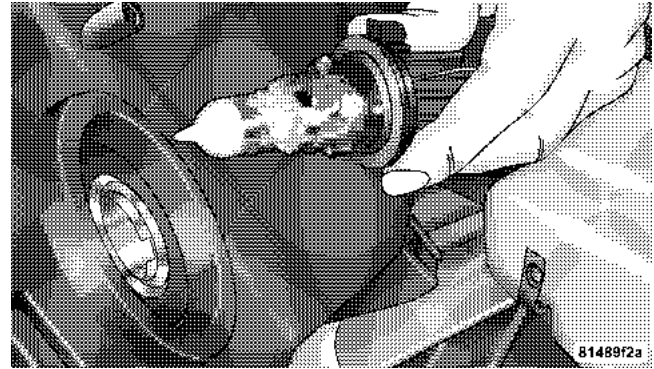
4. While firmly holding the headlamp housing in your hands unlock and disconnect Headlamp bulb connector.
5. Twist 1/4 turn and remove headlamp bulb and socket from housing and replace.



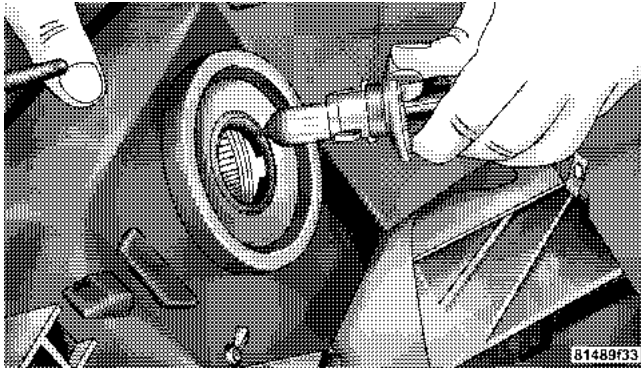
### Removing Headlamp Bulb



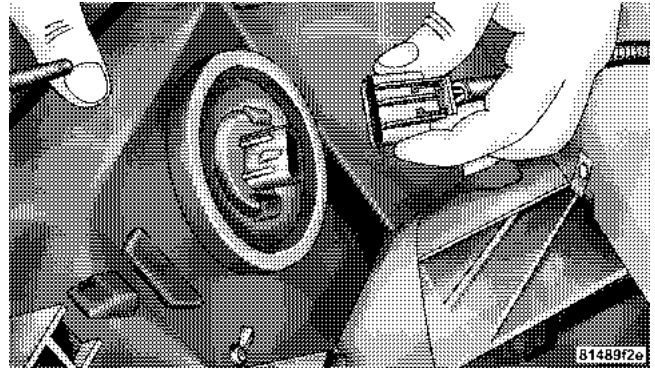
Unlocking Connector



Removing Headlamp from Assembly



Removing Headlamp Bulb



Disconnecting Headlamp Bulb Connector

6. Reverse procedure to install new Headlamp bulb into the headlamp assembly.

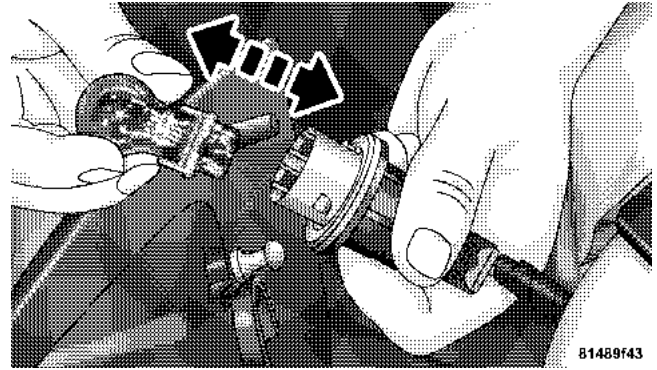
**NOTE:** These are Halogen bulbs. Take care not to touch the bulb with your fingers. Body oils from your fingers could cause excessive heat buildup which reduces bulb life.



### Front Park and Turn Signal Lamp.

- Open the hood.
- Remove the (3 ) screws attaching the headlamp housing to the inner panel.
- Grasp the headlamp and pull firmly to disengage the headlamp housing from the fender panel.

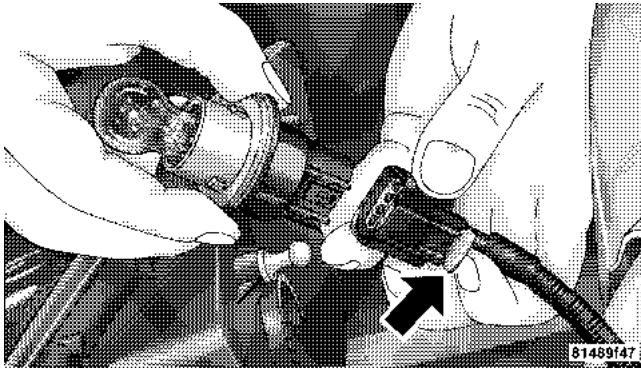
**NOTE:** It is not necessary to disconnect the connector to replace this bulb. If the bulb socket needs replacement disconnect the connector.



81489f43

Removing Turn Signal Bulb

- Rotate bulb socket 1/4 turn and remove socket from housing.
- Pull bulb straight from socket.
- Reverse procedure to install new turn signal bulb.



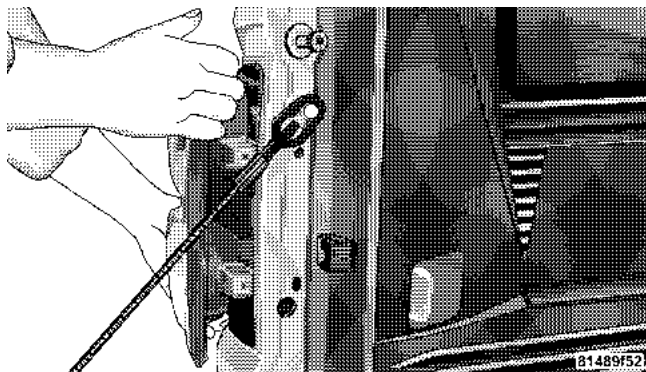
Disconnecting Turn Signal Connector

### Rear Side Marker, Taillamps/Stoplamp, and Turn Signal Bulbs — Replacement

1. Remove the two (2) screws that pass through the bed sheetmetal.

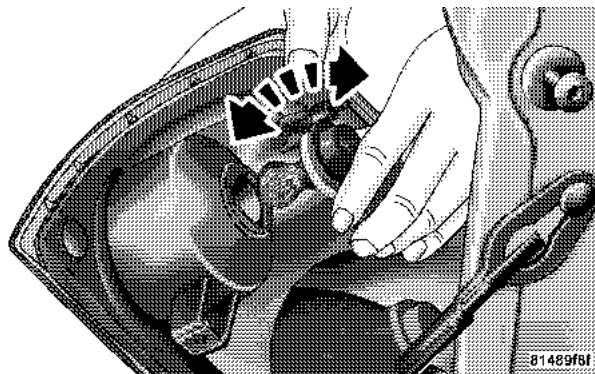


Removing the Two (2) Screws



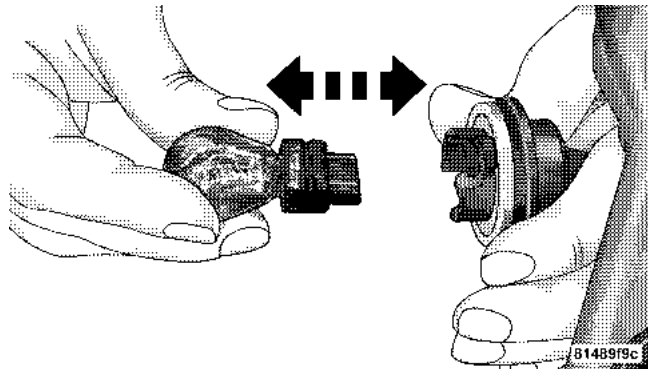
Pulling Housing From Body

2. Pull the taillamp housing straight out from the body.
3. Rotate the bulb socket counterclockwise to from the housing.



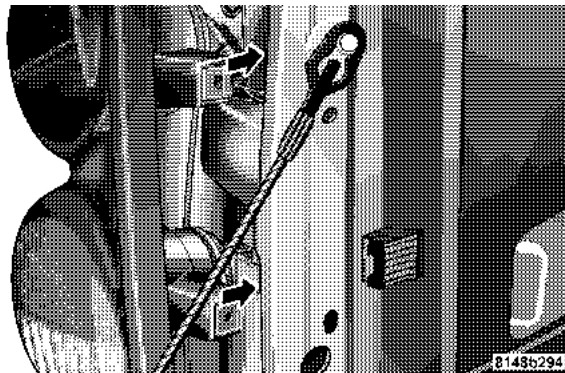
Rotating Bulb Socket From Housing

4. Pull bulb straight out of socket.



Pulling Bulb From Socket

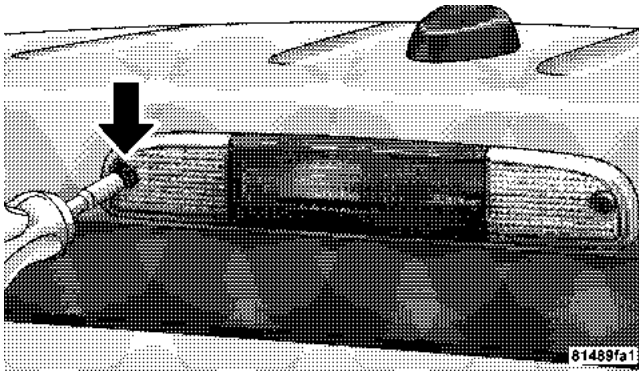
5. Reverse Procedure to install bulb and housing. Place the two raised blocks passed the body.



Sliding Raised Blocks Past Body

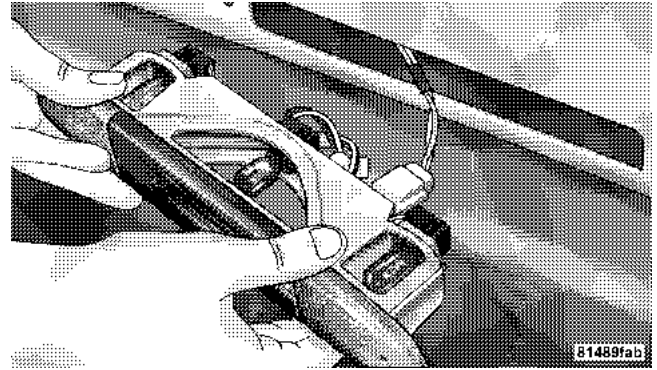
## Center High-Mounted Stoplamp And Cargo Lamp

1. Remove the two (2) screws holding the housing/lens to the body as shown.



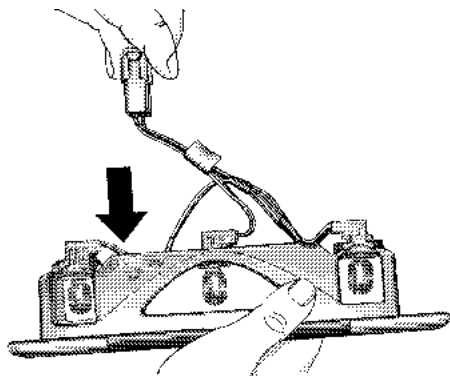
Removing Screws

2. Remove housing from Cab



Removing Housing from Cab

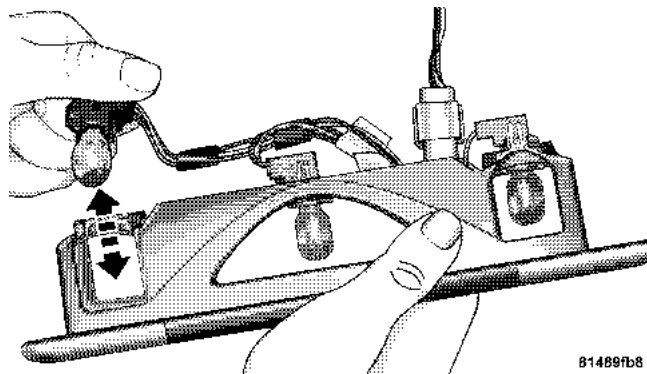
3. Remove connector from housing tab for more clearance.



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Removing Connector from Tab

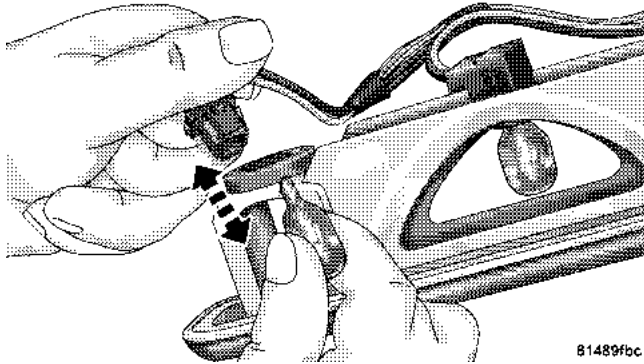
4. Turn desired bulb socket  $\frac{1}{4}$  turn and remove socket and bulb from housing.



81489fb8

Removing Socket From Housing

5. Pull desired bulb straight from the socket.



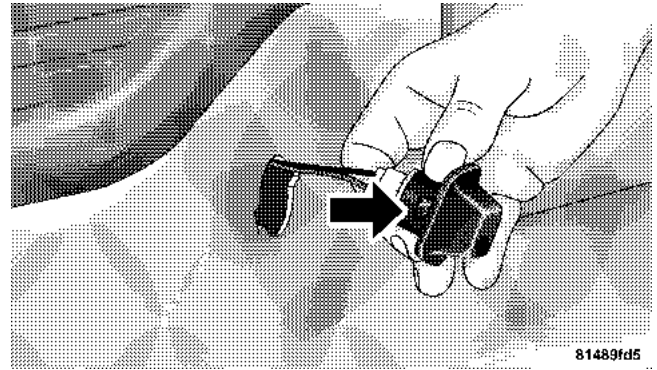
**Pulling Bulb From Socket**

- Outside Bulbs: Cargo Lamps
- Inside Bulb: Center High Mount Stop Lamp

6. Reverse procedure for installation of bulbs and housing.

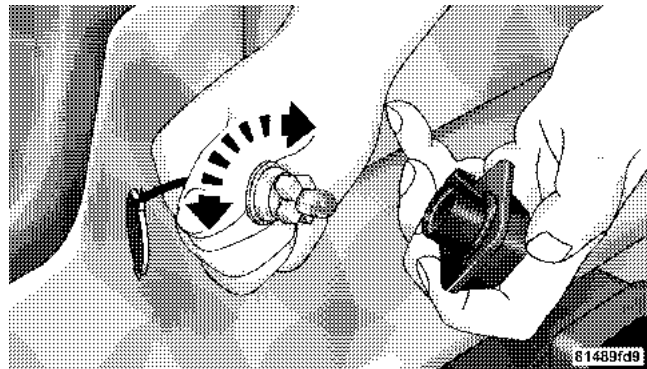
## License Lamps

1. Using a screw driver pry black rubber housing from the bumper.



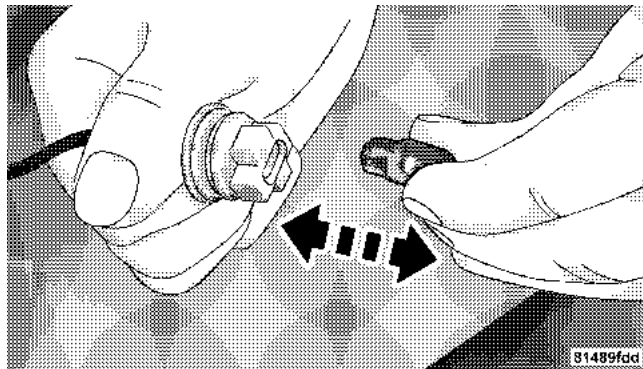
**Removing Housing From Bumper**

2. Rotate the socket 1/4 turn counterclockwise.



Rotating Socket

3. Pull bulb from socket.



Pulling Bulb From Socket

4. Reverse procedure for installation.



**Fog Lamps**

1. Disconnect connector from fog lamp by raising wire harness lock tab and pulling on wire harness connector.

2. Rotate fog lamp bulb 1/4 turn counterclockwise and pull to remove from fog lamp housing.

3. Reverse Procedure to install.

**FLUIDS AND CAPACITIES**

	U.S.	Metric
<b>Fuel</b>		
3.7L/4.7L, 87 Octane	22 Gal.	83L
4.7L HO, 91 Octane, Recommended Not Required	22 Gal.	83L
<b>Engine Oil (with filter)</b>		
3.7L, SAE 5W-20, API Certified	5 Qt.	4.7L
4.7L, SAE 5W-20, API Certified	6 Qt.	5.7L
4.7L HO, SAE 5W-20, API Certified	6 Qt.	5.7L
<b>Cooling System (includes 2.1 Qts./2L for coolant bottle)</b>		
3.7L (Mopar® Antifreeze/Coolant 5 Year/100,000 Mile Formula)	13.3 Qt.	12.5L
4.7L (Mopar® Antifreeze/Coolant 5 Year/100,000 Mile Formula)	13.3 Qt.	12.5L
4.7L HO (Mopar® Antifreeze/Coolant 5 Year/100,000 Mile Formula)	13.3 Qt.	12.5L

**NOTE:** All fluid capacities are approximate capacities.

## FLUIDS, LUBRICANTS AND GENUINE PARTS

### Engine

Component	Fluids, Lubricants and Genuine Parts
Engine Coolant	Mopar® Antifreeze/Coolant 5 Year/100,000 Mile Formula HOAT (Hybrid Organic Additive Technology) or equivalent.
Engine Oil	Use SAE 5W-20, API Certified, meeting material standard MS-6395.
Engine Oil Filter	Mopar® Engine Oil Filter, P/N 5281090 or equivalent.
Spark Plugs	Refer to the Vehicle Emission Control Information label in the engine compartment.
Fuel Selection 3.7L/4.7L	87 Octane, (R+M)/2 Method
Fuel Selection 4.7L HO	91 Octane, (R+M)/2 Method (Recommend, Not Required.)

**Chassis**

Component	Fluids, Lubricants and Genuine Parts.
Automatic Transmission	Mopar® ATF+4, Automatic Transmission Fluid.
Manual Transmission (Getrag 238)	Mopar® ATF+4, Automatic Transmission Fluid.
Transfer Case	Mopar® ATF+4, Automatic Transmission Fluid.
Front Axle	SAE 75W-90 Multipurpose Type, GL-5 Gear Lubricant (MS-9763).
Rear Axle	SAE 75W-140 Synthetic Gear Lubricant (MS-8985). Limited-slip rear axles require Mopar® limited-slip additive (MS-10111). Four ounces (118 ml) should be added to the gear lubricant whenever a fluid change is made.
Brake Master Cylinder	Mopar® DOT 3 and SAE J1703 should be used. If DOT 3 brake fluid is not available, then DOT 4 is acceptable. Use only recommended brake fluids.
Power Steering Reservoir	Mopar® ATF+4, Automatic Transmission Fluid.



# MAINTENANCE SCHEDULES

## CONTENTS

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<ul style="list-style-type: none"> <li>■ Emission Control System Maintenance . . . . .350</li> <li>■ Maintenance Schedules . . . . .350</li> </ul>	<ul style="list-style-type: none"> <li>□ Schedule "B" . . . . .353</li> <li>□ Schedule "A" . . . . .364</li> </ul>
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### EMISSION CONTROL SYSTEM MAINTENANCE

The “Scheduled” maintenance services, listed in **bold type** on the following pages must be done at the times or mileages specified to assure the continued proper functioning of the emission control system. These, and all other maintenance services included in this manual, should be done to provide best vehicle performance and reliability. More frequent maintenance may be needed for vehicles in severe operating conditions such as dusty areas and very short trip driving.

Inspection and service also should be done any time a malfunction is suspected.

**NOTE:** Maintenance, replacement, or repair of the emission control devices and systems on your vehicle may be performed by any automotive repair establishment or individual using any automotive part which has been certified pursuant to U.S. EPA or, in the State of California, California Air Resources Board regulations.

### MAINTENANCE SCHEDULES

There are two maintenance schedules that show the **required** service for your vehicle.

First is Schedule “**B**”. It is for vehicles that are operated under the conditions that are listed below and at the beginning of the schedule.

- Day or night temperatures are below 32° F (0° C).
- Stop and go driving.
- Extensive engine idling.
- Driving in dusty conditions.
- Short trips of less than 10 miles (16 km).
- More than 50% of your driving is at sustained high speeds during hot weather, above 90° F (32° C).
- Trailer towing.
- Taxi, police, or delivery service (commercial service).

- Off-road or desert operation.
- Heavy Loading
- **If equipped for and operating with E-85 (ethanol) fuel.**

**NOTE:** If ANY of these apply to you then change your engine oil every 3,000 miles (5 000 km) or 3 months, whichever comes first and follow schedule "B" of the "Maintenance Schedules" section of this manual.

**NOTE:** If ANY of these apply to you then change your coolant every 102,000 miles (170 000 km) or 60 months, whichever comes first and follow schedule "B" of the "Maintenance Schedules" section of this manual.

Second is Schedule "A". It is for vehicles that are not operated under any of the conditions listed under Schedule "B".

Use the schedule that best describes your driving conditions. Where time and mileage are listed, follow the interval that occurs first.

**NOTE:** Under no circumstances should oil change intervals exceed 6000 miles (10 000 km) or 6 months whichever comes first.

### CAUTION!

**Failure to perform the required maintenance items may result in damage to the vehicle.**

## 352 MAINTENANCE SCHEDULES

### *At Each Stop for Fuel*

- Check the engine oil level about 5 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.
- Check the windshield washer solvent and add, if required.

### *Once a Month*

- Check tire pressure and look for unusual wear or damage.
- Inspect the battery and clean and tighten the terminals as required.
- Check the fluid levels of coolant reservoir, brake master cylinder, and transmission and add as needed.

- Check all lights and all other electrical items for correct operation.

### *At Each Oil Change*

- Change the engine oil filter.
- Inspect the exhaust system.
- Inspect the brake hoses.
- Inspect the CV joints (if equipped) and front suspension components.
- Check the automatic transmission fluid level (if equipped).
- Check the manual transmission fluid level (if equipped).
- Check the coolant level, hoses, and clamps.



### Schedule "B"

Follow schedule "B" if you usually operate your vehicle under one or more of the following conditions.

- Day or night temperatures are below 32° F (0° C).
- Stop and go driving.
- Extensive engine idling.
- Driving in dusty conditions.
- Short trips of less than 10 miles (16 km).
- More than 50% of your driving is at sustained high speeds during hot weather, above 90° F (32° C).
- Trailer towing.
- Taxi, police, or delivery service (commercial service).

- Off-road or desert operation.
- Heavy Loading
- **If equipped for and operating with E-85 (ethanol) fuel.**

**NOTE:** If ANY of these apply to you then change your engine oil every 3,000 miles (5 000 km) or 3 months, whichever comes first and follow schedule "B" of the "Maintenance Schedules" section of this manual.

**NOTE:** If ANY of these apply to you then change your coolant every 102,000 miles (170 000 km) or 60 months, whichever comes first and follow schedule "B" of the "Maintenance Schedules" section of this manual.

354 SCHEDULE "B"

Miles (Kilometers)	3,000 (5 000)	6,000 (10 000)	9,000 (15 000)	12,000 (20 000)	15,000 (25 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.		X		X	
Check spare tire for proper pressure and correct stowage.		X		X	
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X

Miles (Kilometers)	18,000 (30 000)	21,000 (35 000)	24,000 (40 000)	27,000 (45 000)	30,000 (50 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.	X		X		X
Check spare tire for proper pressure and correct stowage.	X		X		X
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
Check transfer case fluid level (4X4).					X
Inspect brake linings.	X				
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X
<b>Replace spark plugs.</b>					X
<b>Inspect PCV valve, replace as necessary.**</b>					X

**356 SCHEDULE "B"**

<b>Miles (Kilometers)</b>	<b>33,000 (55 000)</b>	<b>36,000 (60 000)</b>	<b>39, 000 (65 000)</b>	<b>42,000 (70 000)</b>	<b>45,000 (75 000)</b>
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.		X		X	
Check spare tire for proper pressure and correct stowage.		X		X	
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
Inspect brake linings.		X			
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X

Miles (Kilometers)	48,000 (80 000)	51,000 (85 000)	54,000 (90 000)	57,000 (95 000)	60,000 (100 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.	X		X		X
Check spare tire for proper pressure and correct stowage.	X		X		X
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
Inspect brake linings.			X		
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X
<b>Replace spark plugs.</b>					X
<b>Inspect PCV valve, replace as necessary.**</b>					X
Inspect auto tension drive belt and replace, if required.					X
Drain and refill automatic transmission fluid, change filter (3.7L). *					X

**358 SCHEDULE "B"**

<b>Miles (Kilometers)</b>	<b>48,000 (80 000)</b>	<b>51,000 (85 000)</b>	<b>54,000 (90 000)</b>	<b>57,000 (95 000)</b>	<b>60,000 (100 000)</b>
Drain and refill automatic transmission fluid and change main sump filter (4.7L). *					X
Inspect transfer case fluid (4X4).					X
Flush and replace engine coolant at 60 months, or 102, 000 miles (170 000 km) whichever comes first.					X

Miles (Kilometers)	63,000 (105 000)	66,000 (110 000)	69,000 (115 000)	72,000 (120 000)	75,000 (125 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.		X		X	
Check spare tire for proper pressure and correct stowage.		X		X	
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
Inspect brake linings.				X	
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X
Inspect auto tension drive belt and replace, if required.					X

360 SCHEDULE "B"

Miles (Kilometers )	78,000 (130 000)	81,000 (135 000)	84,000 (140 000)	87,000 (145 000)	90,000 (150 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X
Rotate tires.	X		X		X
Check spare tire for proper pressure and correct stowage.	X		X		X
Change rear axle fluid.					X
Change front axle fluid (4X4).					X
Check transfer case fluid level (4X4).					X
Inspect brake linings.					X
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X
<b>Replace spark plugs.</b>					X
<b>Inspect PCV valve, replace as necessary.**</b>					X
Inspect auto tension drive belt and replace, if required.					X



Miles (Kilometers)	93,000 (155 000)	96,000 (160 000)	99,000 (165 000)	102,000 (170 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X
Rotate tires.		X		X
Check spare tire for proper pressure and correct stowage.		X		X
Flush and replace engine coolant, if not done at 60 months.				X
Change rear axle fluid.		X		
Change front axle fluid (4X4).		X		

## 362 SCHEDULE "B"

Miles (Kilometers)	105,000 (175 000)	108,000 (180 000)	111,000 (185 000)	114,000 (190 000)	117,000 (195 000)	120,000 (200 000)
Change engine oil and engine oil filter, or at 3 months whichever comes first.	X	X	X	X	X	X
Rotate tires.		X		X		X
Check spare tire for proper pressure and correct stowage.		X		X		X
Change rear axle fluid.	X					X
Change front axle fluid (4X4).	X					X
Inspect brake linings.		X				
<b>Inspect engine air cleaner filter, replace if necessary.</b>	X					X
<b>Replace spark plugs.</b>						X
<b>Inspect PCV valve, replace as necessary.**</b>						X
Inspect auto tension drive belt and replace, if required.	X					X
Drain and refill transfer case fluid (4X4).						X

Miles (Kilometers)	105,000 (175 000)	108,000 (180 000)	111,000 (185 000)	114,000 (190 000)	117,000 (195 000)	120,000 (200 000)
Drain and refill automatic transmission fluid, change filter (3.7L). *						X
Drain and refill automatic transmission fluid and change main sump filter and spin-on cooler return filter if equipped. (4.7L). *						X
Flush and replace engine coolant, if not replaced at 102,000 miles (170 000 km).						X

\*This applies only if your vehicle is used for police, taxi, fleet, or frequent trailer towing.

\*\* This maintenance is recommended by the manufacturer to the owner, but not required to maintain the emissions warranty.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

364 SCHEDULE "A"

**Schedule "A"**

Miles (Kilometers) [Months]	6,000 (10 000) [6]	12,000 (20 000) [12]	18,000 (30 000) [18]	24,000 (40 000) [24]	30,000 (50 000) [30]
Change engine oil and engine oil filter.	X	X	X	X	X
Rotate tires.	X	X	X	X	X
Check spare tire for proper pressure and correct stowage.	X	X	X	X	X
Check transfer case fluid level (4X4).					X
Inspect brake linings.			X		
<b>Inspect engine air cleaner filter, replace as necessary.</b>					X
Replace spark plugs.					X

Miles (Kilometers) [Months]	36,000 (60 000) [36]	42,000 (70 000) [42]	48,000 (80 000) [48]	54,000 (90 000) [54]	60,000 (100 000) [60]	66,000 (110 000) [66]
Change engine oil and engine oil filter.	X	X	X	X	X	X
Rotate tires.	X	X	X	X	X	X
Check spare tire for proper pressure and correct stowage.	X	X	X	X	X	X
Check transfer case fluid level (4X4).					X	
Flush and replace engine coolant at 60 months, if not replaced at 102,000 miles (170 000 km).					X	
Inspect brake linings.	X			X		
<b>Inspect engine air cleaner filter, replace if necessary.</b>					X	
<b>Replace spark plugs.</b>					X	
<b>Inspect PCV valve, replace as necessary.**</b>					X	
Inspect auto tension drive belt and replace, if required.					X	

## 366 SCHEDULE "A"

Miles (Kilometers) [Months]	72,000 (120 000) [72]	78,000 (130 000) [78]	84,000 (140 000) [84]	90,000 (150 000) [90]	96,000 (160 000) [96]
Change engine oil and engine oil filter.	X	X	X	X	X
Rotate tires.	X	X	X	X	X
Check spare tire for proper pressure and correct stowage.	X	X	X	X	X
Check transfer case fluid level (4X4).				X	
Inspect brake linings.	X			X	
<b>Inspect engine air cleaner filter, replace if necessary.</b>				X	
<b>Replace spark plugs.</b>				X	
<b>Inspect PCV valve, replace as necessary.**</b>				X	
Inspect auto tension drive belt and replace, if required.				X	

Miles (Kilometers) [Months]	102,000 (170 000) [102]	108,000 (180 000) [108]	114,000 (190 000) [114]	120,000 (200 000) [120]
Change engine oil and engine oil filter.	X	X	X	X
Rotate tires.	X	X	X	X
Check spare tire for proper pressure and correct stowage.	X	X	X	X
Drain and refill transfer case fluid (4X4).				X
Flush and replace engine coolant, if not done at 60 months.	X			
Flush and replace engine coolant, if not done at 102,000 miles (170 000 km)				X
Inspect brake linings.		X		
<b>Inspect engine air cleaner filter, replace as necessary.</b>				X
<b>Replace spark plugs.</b>				X
<b>Inspect PCV valve, replace as necessary.**</b>				X
Inspect auto tension drive belt and replace, if necessary.				X

**368 SCHEDULE "A"**

\*\* This maintenance is recommended by the manufacturer to the owner, but not required to maintain the emissions warranty.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

**WARNING!**

**You can be badly injured working on or around a motor vehicle. Do only that service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.**



# IF YOU NEED CONSUMER ASSISTANCE

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## **SUGGESTIONS FOR OBTAINING SERVICE FOR YOUR VEHICLE**

### **Prepare For The Appointment**

If you're having warranty work done, be sure to have the right papers with you. Take your warranty folder. All work to be performed may not be covered by the warranty, discuss additional charges with the service manager. Keep a maintenance log of your vehicle's service history. This can often provide a clue to the current problem.

### **Prepare A List**

Make a written list of your vehicle's problems or the specific work you want done. If you've had an accident, or work done that is not on your maintenance log, let the service advisor know.

### **Be Reasonable With Requests**

If you list a number of items, and you must have your vehicle by the end of the day, discuss the situation with the service advisor and list the items in order of priority. At many dealers you may obtain a rental vehicle at a minimal daily charge. If you need a rental, it is advisable to make these arrangements when you call for an appointment.

## **IF YOU NEED ASSISTANCE**

The manufacturer and its dealers are vitally interested in your satisfaction. We want you to be happy with our products and services.

Warranty service must be done by an authorized Chrysler, Dodge, or Jeep dealer. We strongly recommend that you take your vehicle to your selling dealer. They know you and your vehicle best, and are most concerned that you get prompt and high quality service. The manufacturer's dealers have the facilities, factory-trained

technicians, special tools, and the latest information to assure your vehicle is fixed correctly and in a timely manner.

This is why you should always talk to your dealer's service manager first. Most matters can be resolved with this process.

- If for some reason you are still not satisfied, talk to the general manager or owner of the dealership. They want to know if you need assistance.
- If your dealership is unable to resolve the concern, you may contact the Manufacturer's Customer Center.

Any communication to the Manufacturer's Customer Center should include the following information:

- Owner's name and address
- Owner's telephone number (home and office)
- Dealership name

- Vehicle identification number
- Vehicle delivery date and mileage

*DaimlerChrysler Motors Corporation Customer Center*  
P.O. Box 21-8004  
Auburn Hills, MI 48321-8004  
Phone: (800) 992-1997

*DaimlerChrysler Canada Inc. Customer Center*  
P.O. Box 1621  
Windsor, Ontario N9A 4H6  
Phone —(800) 465-2001

***In Mexico contact:***

Av. Prolongacion Paseo de la Reforma, 1240  
Sante Fe C.P. 05109  
Mexico, D. F.  
In Mexico (915) 729-1248 or 729-1240  
Outside Mexico (525) 729-1248 or 729-1240

*Customer Assistance For The Hearing Or Speech Impaired (TDD/TTY)*

To assist customers who have hearing difficulties, the manufacturer has installed special TDD (Telecommunication Devices for the Deaf) equipment at its Customer Center. Any hearing or speech impaired customer who has access to a TDD or a conventional teletypewriter (TTY) in the United States can communicate with the manufacturer by dialing 1-800-380-CHRY.

*Service Contract*

You may have purchased a service contract for your vehicle to help protect you from the high cost of unexpected repairs after your manufacturer's new vehicle limited warranty expires. The manufacturer stands behind only the manufacturer's Service Contracts. If you purchased a manufacturer's Service Contract, you will receive Plan Provisions and an Owner Identification Card in the mail within three weeks of your vehicle delivery date. If you have any questions about your service

contract, call the manufacturer's Service Contract National Customer Hotline at 1-800-521-9922.

The manufacturer will not stand behind any service contract that is not the manufacturer's Service Contract. It is not responsible for any service contract other than the manufacturer's Service Contract. If you purchased a service contract that is not a manufacturer's Service Contract, and you require service after your manufacturer's new vehicle limited warranty expires, please refer to your contract documents, and contact the person listed in those documents.

We appreciate that you have made a major investment when you purchased your new vehicle. Your dealer has also made a major investment in facilities, tools, and training to assure that you are absolutely delighted with your ownership experience. You'll be pleased with their sincere efforts to resolve any warranty issues or related concerns.

**WARRANTY INFORMATION (U.S. Vehicles Only)**

See the Warranty Information Booklet for the terms and provisions of DaimlerChrysler's warranties applicable to this vehicle.

**MOPAR® PARTS**

Mopar® fluids, lubricants, parts, and accessories are available from your dealer. They will help you keep your vehicle operating at its best.

**REPORTING SAFETY DEFECTS**

In the 50 United States and Washington D.C.: If you believe that your vehicle has a defect, which could cause a crash or cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying the manufacturer.

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, and the manufacturer.

To contact NHTSA, you may either call the Auto Safety Hotline toll free at 1-888-327-4236 (TTY: 1-800-424-9153), or go to <http://www.NHTSA.gov>. or write to: NHTSA, U.S. Dept. of Transportation, Washington DC 20590. You can also obtain other information about motor vehicle safety from the Hotline.

**In Canada:**

If you believe that your vehicle has a safety defect, you should contact the Customer Service Department immediately. Canadian customers who wish to report a safety defect to the Canadian government should write to Transport Canada, Motor Vehicle Defect Investigations and Recalls, 2780 Sheffield Road, Ottawa, Ontario K1B 3V9.

## PUBLICATION ORDER FORMS

To order the following manuals, you may use either the website or the phone numbers listed below. Visa, Mastercard, American Express, and Discover orders are accepted. If you prefer mailing your payment, please call for an order form.

**NOTE:** A street address is required when ordering manuals. (No P.O. Boxes).

- *Service Manuals.*

These comprehensive service manuals provide the information that students and professional technicians need in diagnosing/troubleshooting, problem solving, maintaining, servicing, and repairing DaimlerChrysler Corporation vehicles. A complete working knowledge of the vehicle, system, and/or components is written in straightforward language with illustrations, diagrams, and charts.

- *Diagnostic Procedure Manuals.*

Filled with diagrams, charts and detailed illustrations, these practical manuals make it easy for students and technicians to find and fix problems on computer-controlled vehicle systems and features. They show exactly how to find and correct problems the first time, using step-by-step troubleshooting and driveability procedures, proven diagnostic tests and a complete list of all tools and equipment.

- *Owner's Manuals.*

These manuals have been prepared with the assistance of service and engineering specialists to acquaint you with specific Chrysler group vehicles. Included are starting, operating, emergency and maintenance procedures as well as specifications, capabilities and safety tips.

*Call Toll Free at:*

- 1-800-890-4038 (U.S.)
- 1-800-387-1143 (Canada)

Or

*Visit us on the World Wide Web at:*

- [www.techauthority.daimlerchrysler.com](http://www.techauthority.daimlerchrysler.com)
- [www.daimlerchrysler.ca/manuals](http://www.daimlerchrysler.ca/manuals)

## **DEPARTMENT OF TRANSPORTATION UNIFORM TIRE QUALITY GRADES**

The following describes the tire grading categories established by the National Highway Traffic Safety Administration. The specific grade rating assigned by the tire's manufacturer in each category is shown on the sidewall of the tires on your car.

All Passenger Car Tires Must Conform to Federal Safety Requirements in Addition to These 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 a half (1 1/2) 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 Grades**

The traction grades, from highest to lowest, are AA, A, B, and C. Those 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.

**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.

**Temperature Grades**

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The

grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law.

**WARNING!**

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



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