

SECTION : 9T

REMOTE KEYLESS ENTRY AND PERIMETER/ULTRASONIC ANTI-THEFT SYSTEM

CAUTION : *Disconnect the negative battery cable before removing or installing any electrical unit or when a tool or equipment could easily come in contact with exposed electrical terminals. Disconnecting this cable will help prevent personal injury and damage to the vehicle. The ignition must also be in LOCK unless otherwise noted.*

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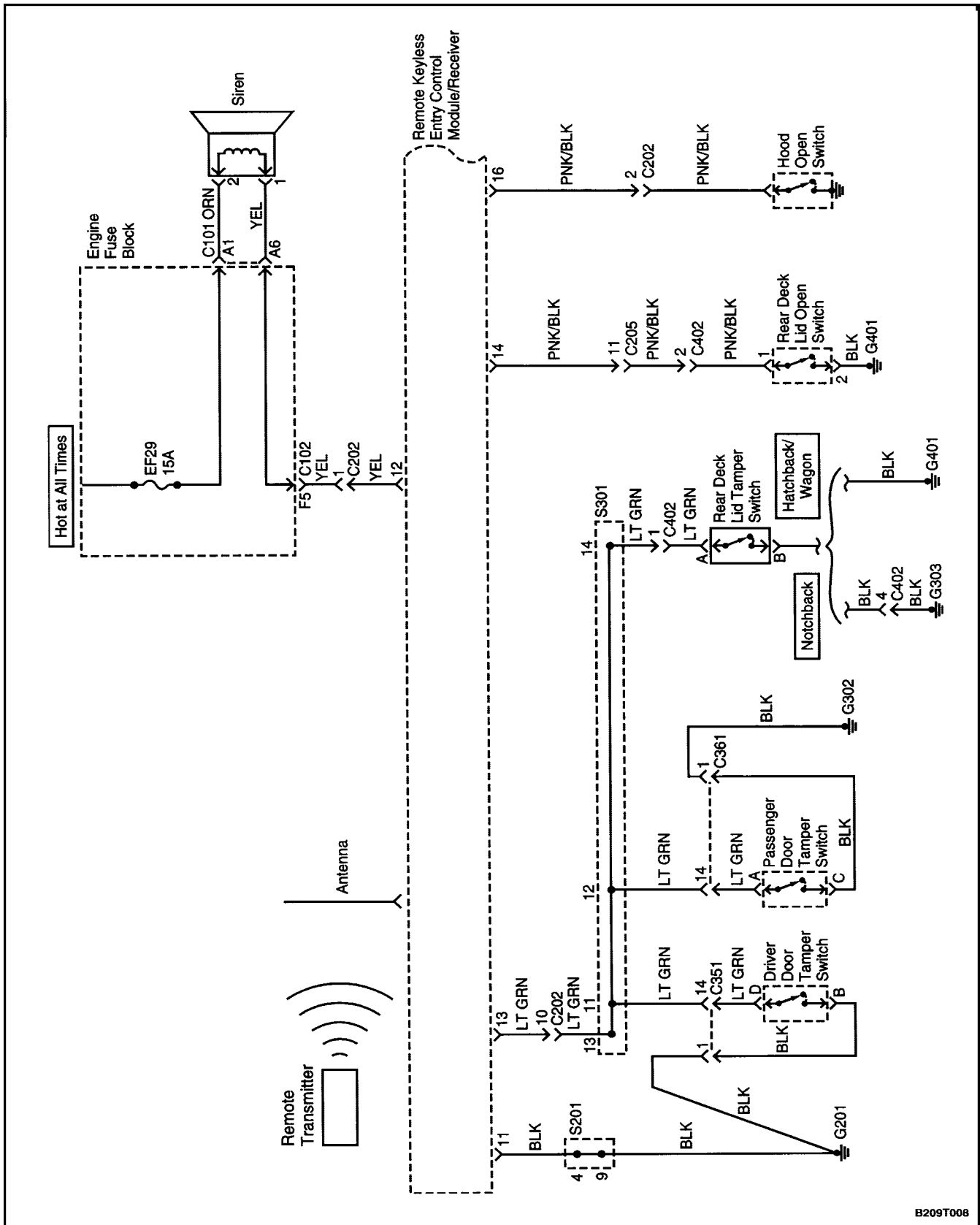
SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

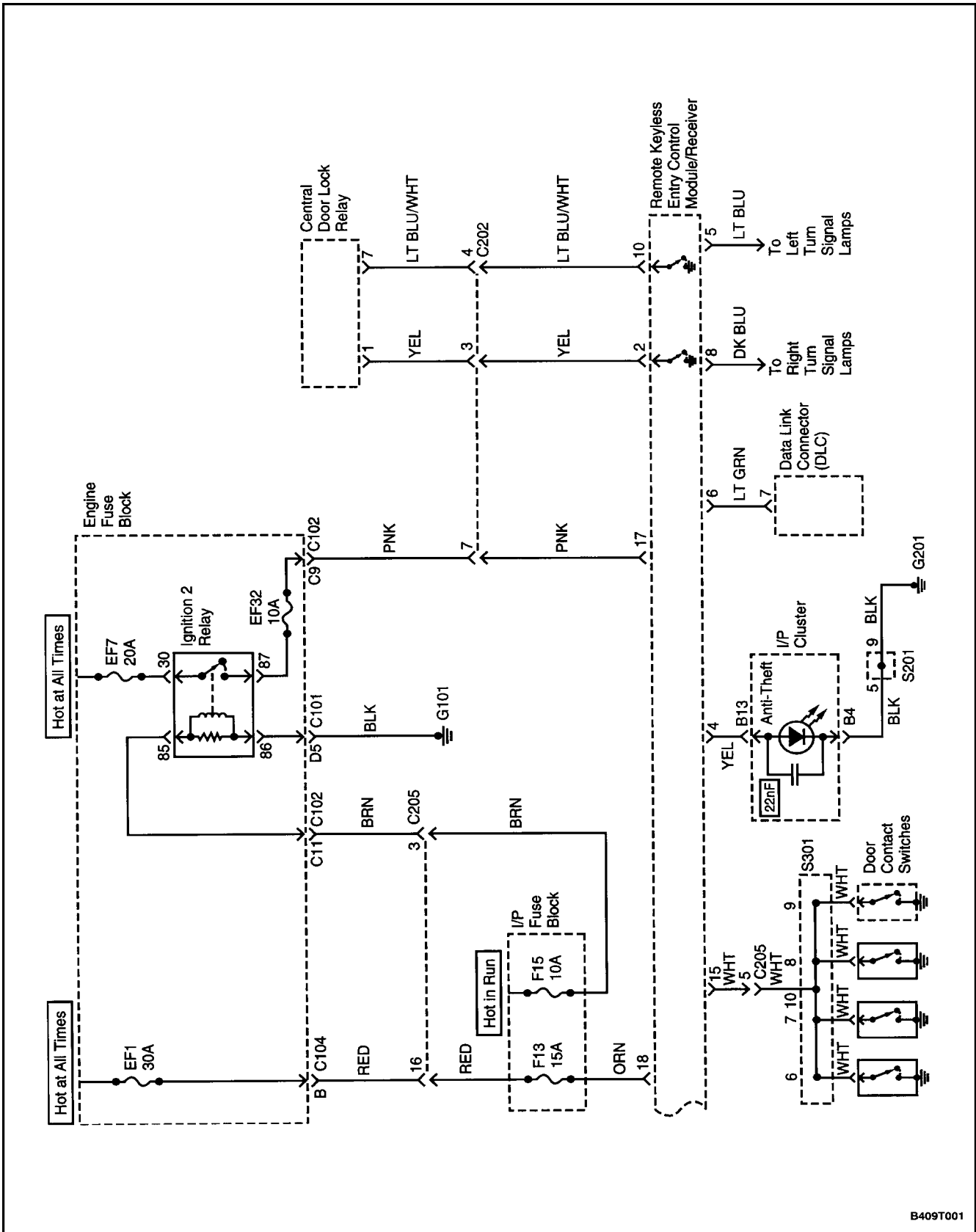
Application	N•m	Lb-Ft	Lb-In
Hood Open Switch Mounting Screw	8	–	71
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SCHEMATIC AND ROUTING DIAGRAMS

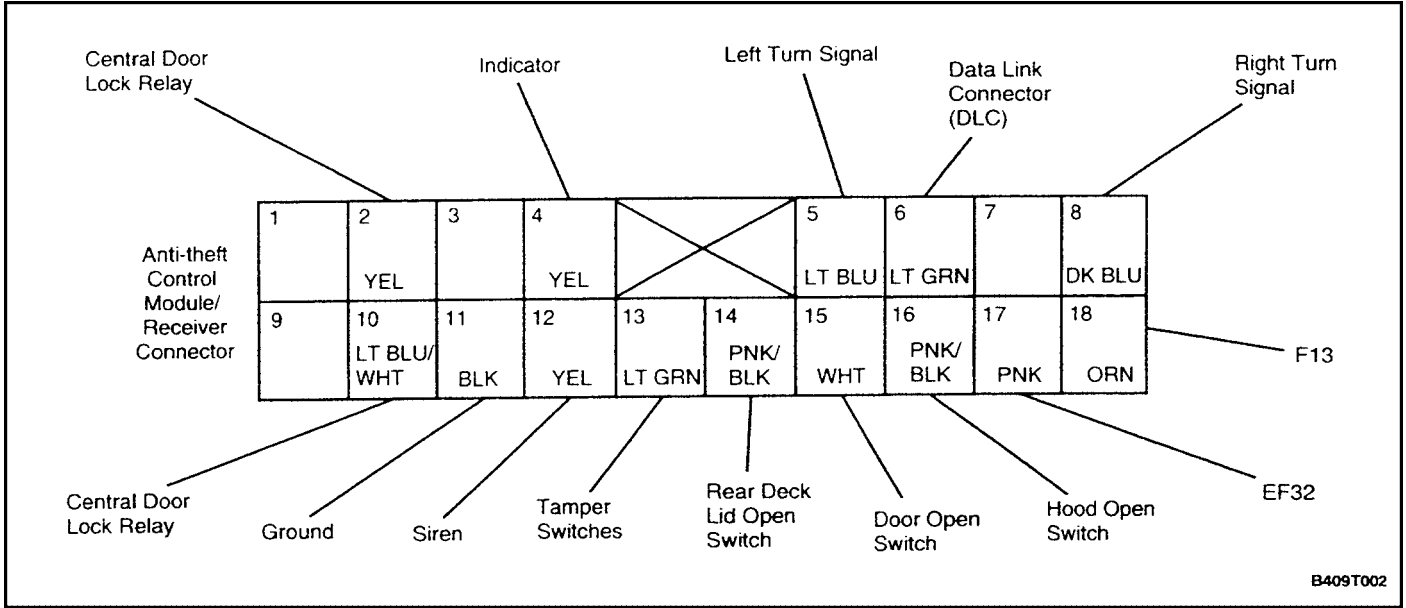
REMOTE KEYLESS ENTRY AND ANTI-THEFT SYSTEM (1 OF 2)



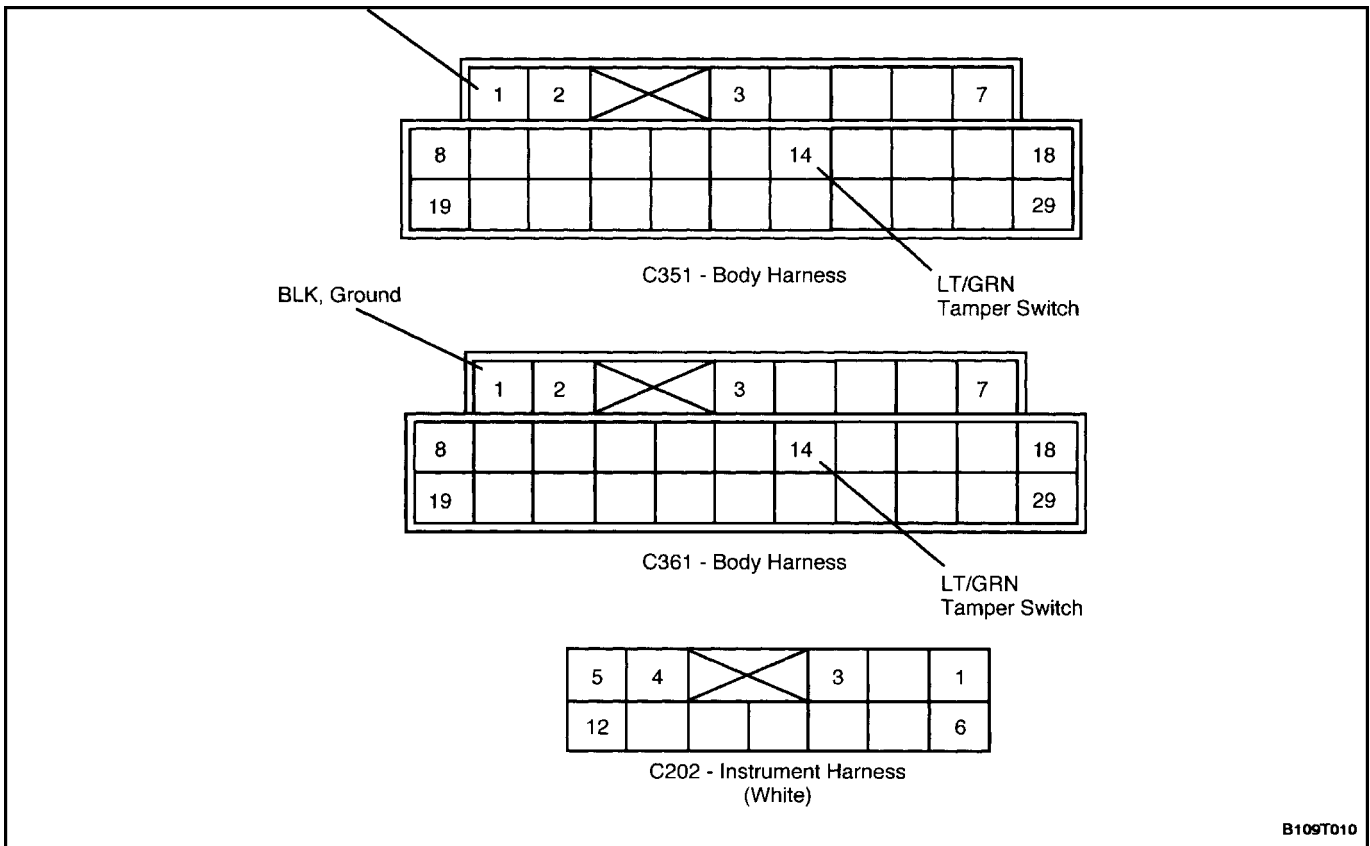
REMOTE KEYLESS ENTRY AND ANTI-THEFT SYSTEM (2 OF 2)



CONTROL MODULE/RECEIVER CONNECTOR



WIRING HARNESS CONNECTORS



MAINTENANCE AND REPAIR

ON-VEHICLE SERVICE

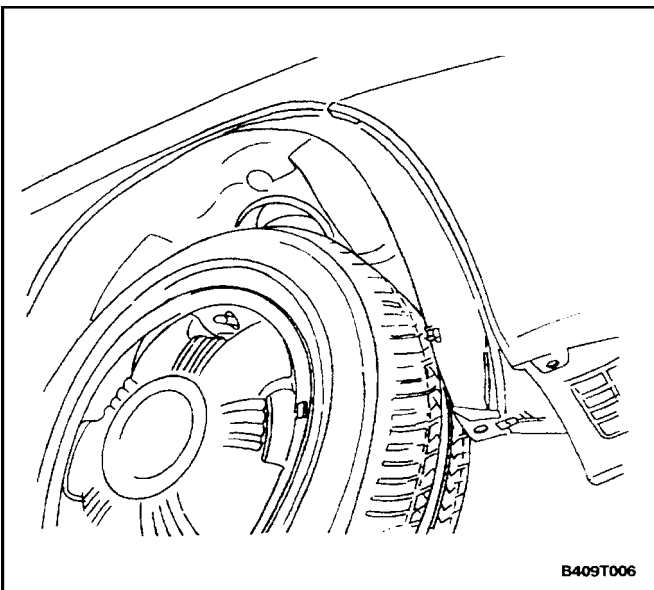
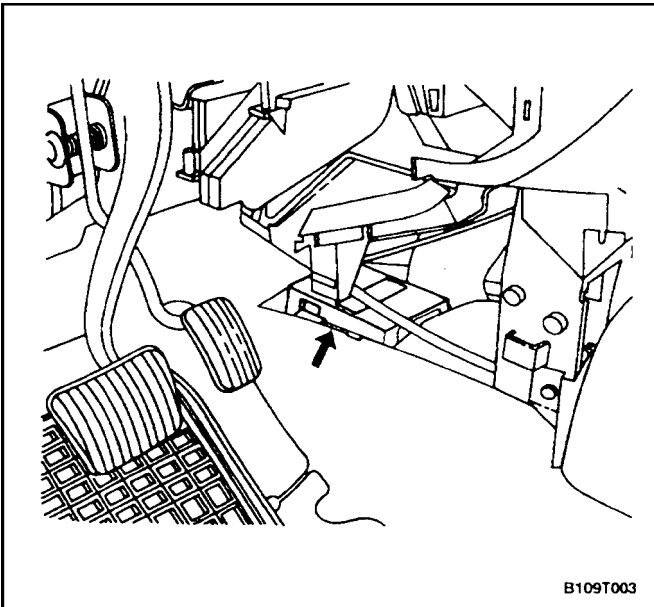
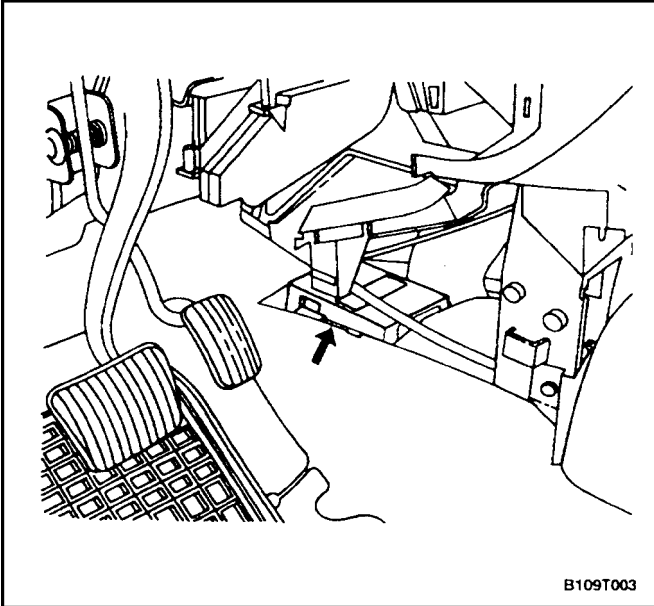
CONTROL MODULE/RECEIVER

Removal Procedure

1. Disconnect the negative battery cable.
2. Remove floor console left side forward trim panel. Refer to *Section 9G, Interior Trim*.
3. Disconnect the control module/receiver electrical connector.
4. Slide the control module/receiver toward the rear of the vehicle and remove it.

Installation Procedure

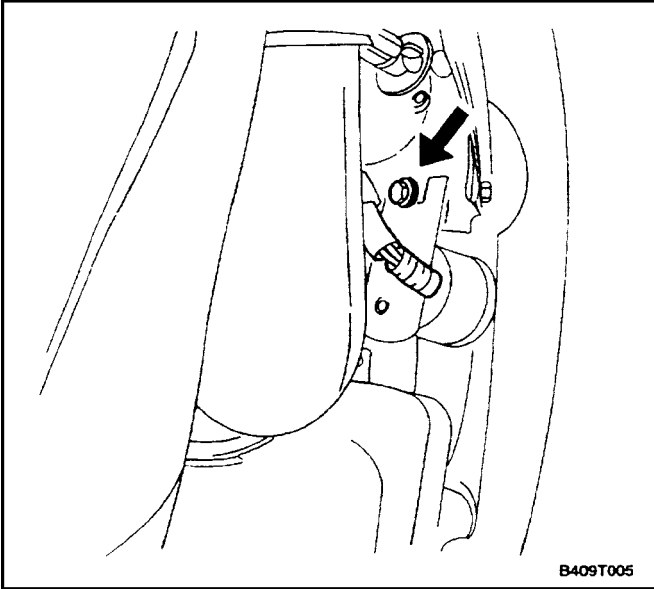
1. Install the control module/receiver by sliding it onto its bracket.
2. Connect the control module/receiver electrical connector.
3. Install the floor console left side forward trim panel. Refer to *Section 9G, Interior Trim*.
4. Connect the negative battery cable.



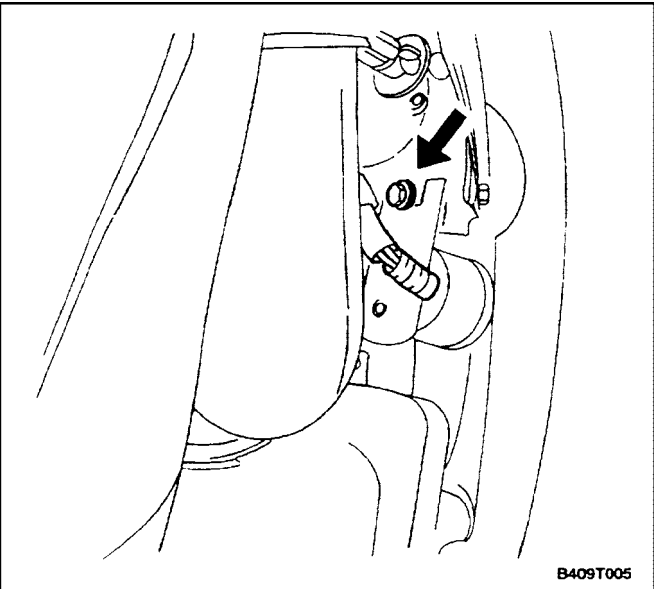
SIREN

Removal Procedure

1. Remove several screws to loosen the forward half of the right front wheel well splash shield.



2. Remove the siren electrical connector.
3. Remove the siren bracket mounting bolt.
4. Remove the siren.

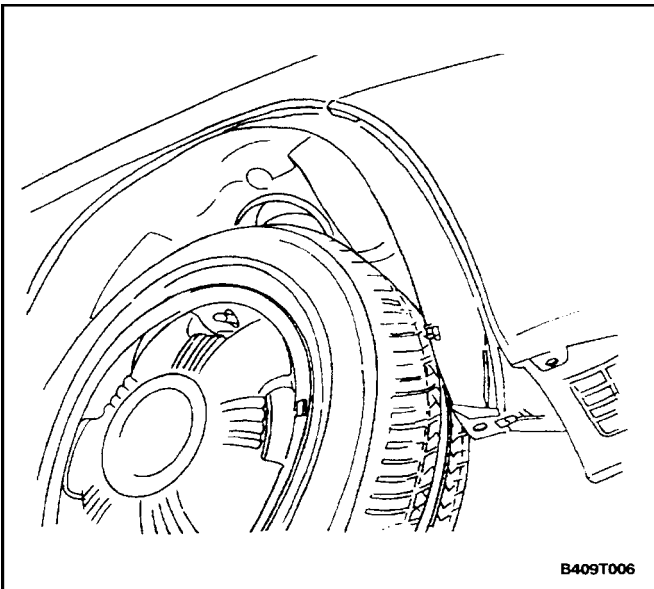


Installation Procedure

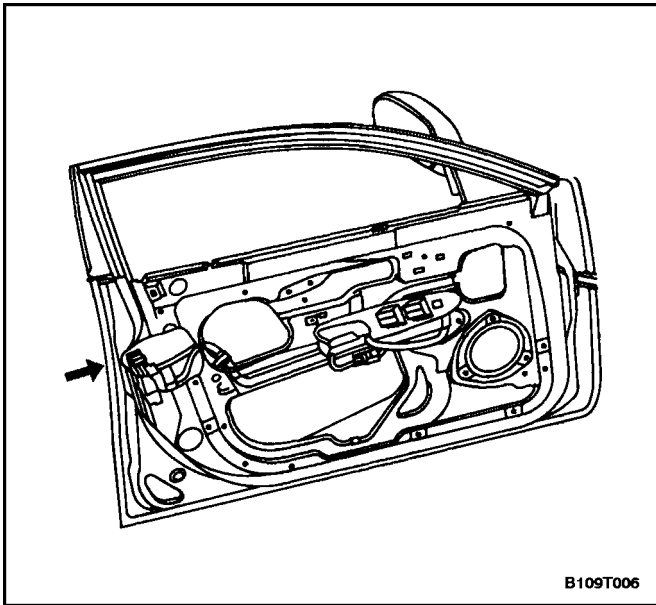
1. Install the siren on the siren bracket with the mounting screws.

Tighten

Tighten the siren bracket mounting bolts to 22 N•m (16 lb-in).



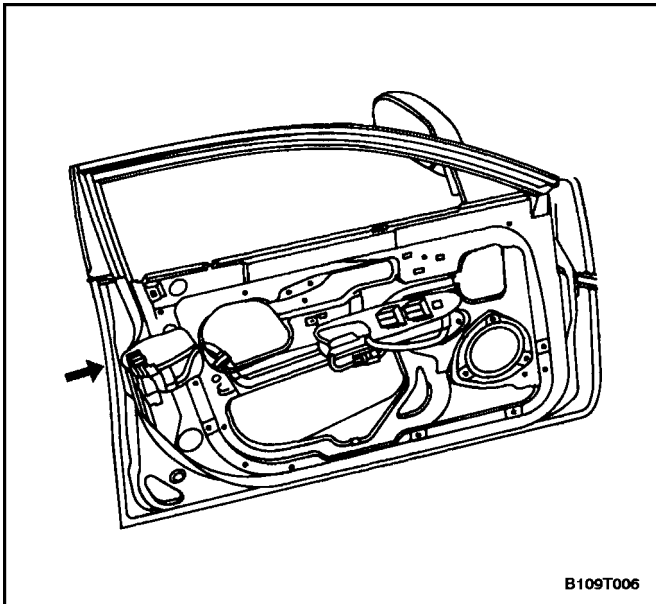
2. Connect the siren electrical connector.



FRONT DOOR TAMPER SWITCH

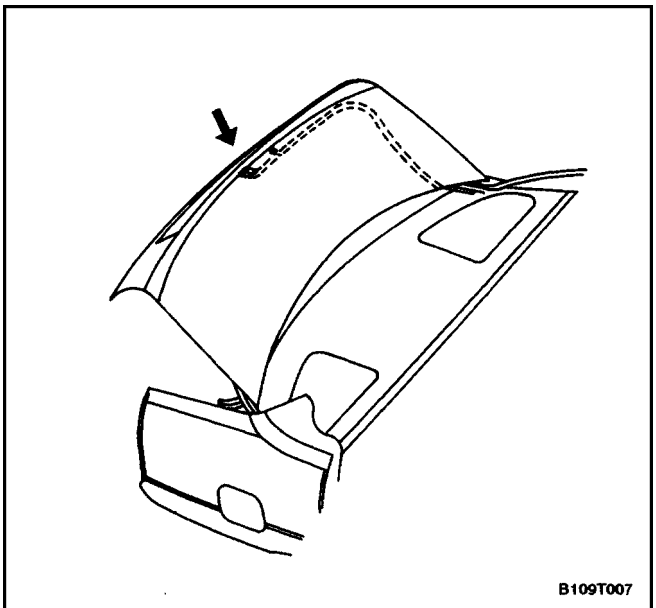
Removal Procedure

1. Disconnect the negative battery cable.
2. Remove the front door trim panel. Refer to *Section 9G, Interior Trim*.
3. Disconnect the door tamper switch electrical connector.
4. Remove the front door lock and the integral door tamper switch. Refer to *Section 9P, Doors*.



Installation Procedure

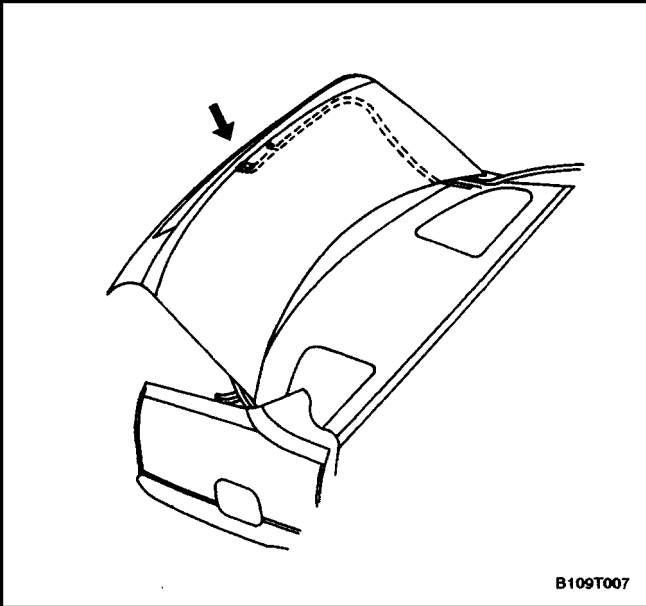
1. Install the front door lock and the integral door tamper switch. Refer to *Section 9P, Doors*.
2. Install the door tamper switch electrical connector.
3. Install the front door trim panel. Refer to *Section 9G, Interior Trim*.
4. Connect the negative battery cable.



REAR DECK LID TAMPER SWITCH

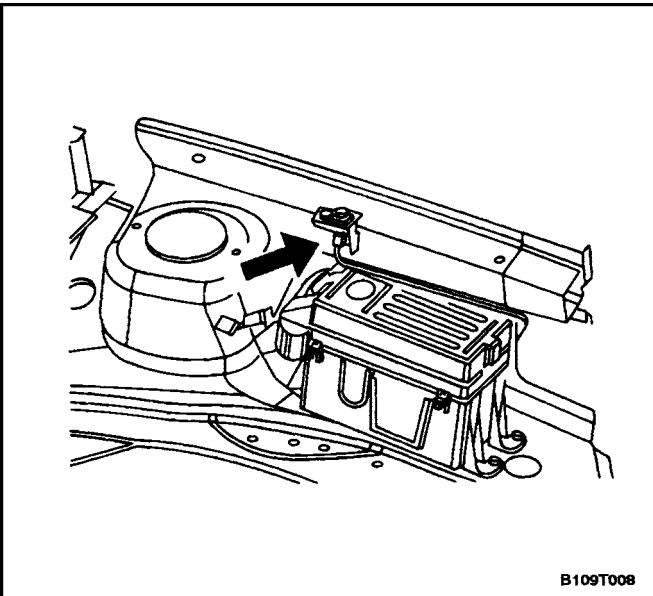
Removal Procedure

1. Disconnect the negative battery cable.
2. Disconnect the rear deck lid tamper switch electrical connector from the tamper switch.
3. Remove the rear deck lid tamper switch.



Installation Procedure

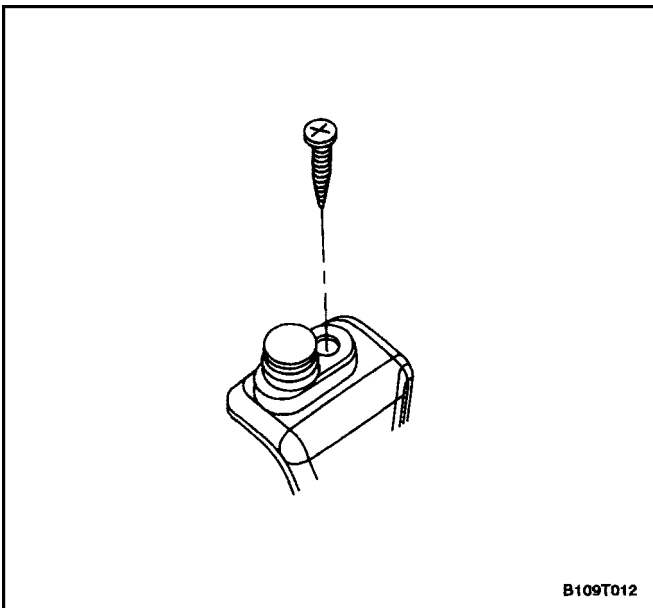
1. Install the rear deck lid tamper switch.
2. Connect the rear deck lid tamper switch electrical connector to the tamper switch.
3. Connect the negative battery cable.



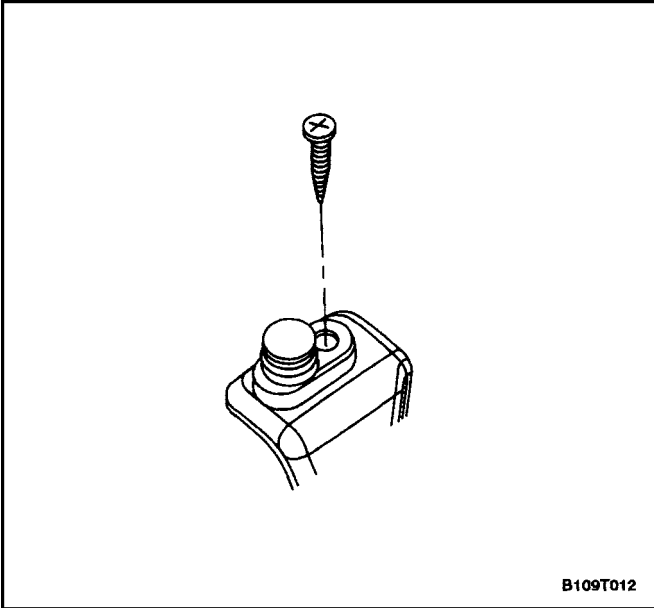
HOOD OPEN SWITCH

Removal Procedure

1. Disconnect the negative battery cable.
2. Disconnect the electrical connector from the hood open switch.



3. Remove the mounting screw from the hood open switch.
4. Remove the hood open switch.

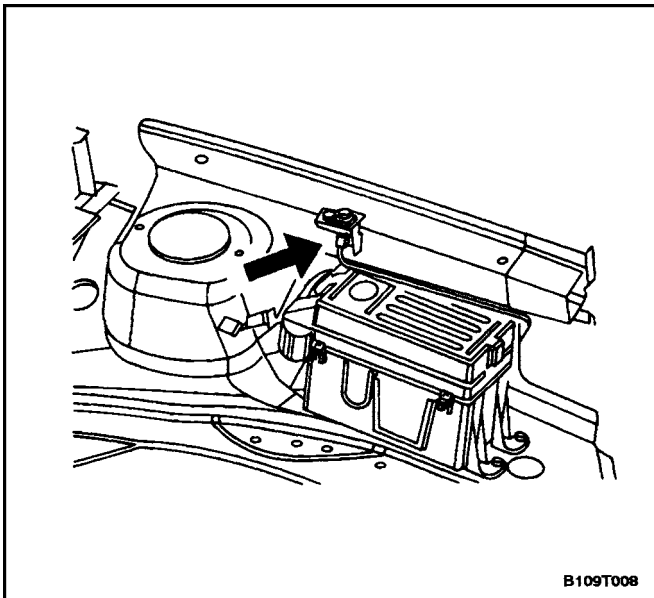


Installation Procedure

1. Install the hood open switch with the mounting screw.

Tighten

Tighten the hood open switch mounting screw to 8 N•m (71 lb-in).



2. Connect the electrical connector to the hood open switch.
3. Connect the negative battery cable.

PASSWORD PROGRAMMING

If a transmitter is lost or damaged, the control module/receiver must be re-programmed to communicate with a new transmitter. The passwords recorded in the control module/receiver should not be deleted when power is off in the control module/receiver.

Each control module/receiver should be able to record five passwords. The following method is used to record new passwords in the control module/receiver:

1. Connect the scan tool to the assembly line diagnostic link (ALDL) connector.
2. Turn the ignition ON.
3. Delete the current passwords.
4. Send the programming mode message to the control module/receiver.
5. Press any button of the transmitter to generate a data code including a password which will be recorded by the control module/receiver. The control module/receiver sends a response message to the scan tool to indicate that the first password has been recorded.
6. Press any button of the transmitter to generate a data code including a password which will be recorded by the control module/receiver. The control module/receiver sends a response message to the scan tool to indicate that the second password has been recorded.
7. Press any button of the transmitter three more times until the control module/receiver has responded that the third, fourth, and fifth passwords have been recorded.
8. Turn the ignition OFF.
9. Disconnect the scan tool.

The control module/receiver automatically leaves the programming mode and switches to the normal operating mode when either of the following conditions occurs:

- The scan tool is disconnected from the ALDL.
- Five passwords are recorded in the control module/receiver.

GENERAL DESCRIPTION AND SYSTEM OPERATION

REMOTE KEYLESS ENTRY AND ANTI-THEFT SYSTEM

The remote keyless entry and anti-theft system can perform the following functions:

- Remotely lock and unlock the vehicle doors with a hand-held high-frequency transmitter.
- Sense intrusion into the vehicle through the doors, the trunk, or the hood.
- Activate a warning to signal an intrusion.
- Help the driver find the vehicle in a parking area.
- Automatically re-lock the doors if a door or the trunk is not opened within 30 seconds after the vehicle has been unlocked by the remote keyless entry.
- Communicate serial data to a scan tool to help diagnose system faults.

The remote keyless entry and anti-theft system consists of the following components:

- Keyless entry and anti-theft control module/receiver.
- Security indicator.
- Rear deck lid open switch.
- Rear deck lid tamper switch.
- Front door tamper switches.
- Door open switches.
- Central locking unit.
- Flashing turn signal lamps.
- Siren.
- Hood open switch.

REMOTE LOCKING AND UNLOCKING

The hand-held transmitter locks and unlocks the vehicle doors by sending radio waves to the control module/receiver in the vehicle. The effective range of the transmitter varies between 5 and 10 meters (approximately 16 to 32 feet), depending on whether or not objects such as other vehicles are blocking the path of the radio waves.

The transmitter has a LOCK button and an UNLOCK button which only function when the ignition is OFF. Pressing the UNLOCK button has the following effects:

- The doors are unlocked.
- The turn signal lamps flash twice.
- The control module is disarmed.

Pressing the LOCK button has the following effects:

- The doors are locked.
- The turn signal lamps flash once.
- The control module is armed.

The transmitter has a replaceable battery. The battery is designed to last at least three years before replacement is necessary.

SECURITY INDICATOR

There is a security indicator on the instrument panel. After the LOCK button of the transmitter is pressed, the module is placed in the armed mode, and the security indicator flashes. The security indicator turns ON for 0.1 second and OFF for 0.7 second. It then flashes at that frequency until the control module/receiver is disarmed. If the vehicle is equipped with an immobilizer, the security indicator is connected to the immobilizer system instead of the keyless entry/anti-theft system.

INTRUSION SENSING

The anti-theft function is armed if the transmitter sends the LOCK message to the control module/receiver when the ignition is OFF.

When the hood, the door, or the rear deck lid is opened, the hood open switch, the door open switch, or the trunk open switch will change its input to ground. The alarm will be activated if the hood open sensor, the door open sensor, or the trunk open sensor changes its input to ground before either of the following conditions occurs:

- An UNLOCK message is received from the transmitter.
- The front door tamper switch or the rear deck lid tamper switch indicates key operation by changing its input to ground.

The alarm also will be activated if the ignition input is changed to battery voltage before either of the following conditions occurs:

- An UNLOCK message is received from the transmitter.
- The front door tamper switch or the rear deck lid tamper switch indicates key operation by changing its input to ground.

SIREN

The remote keyless entry system is armed when the LOCK message is received from the transmitter when the ignition is OFF. When the system is armed, it will activate the siren and flash the turn signals for 28 seconds if any of the following conditions occurs:

- A door is opened without using the key (front door open switch input is changed to ground).
- The rear deck lid is opened without using the key (trunk open switch input is changed to ground).
- The hood is opened while the anti-theft system is armed (hood open switch input is changed to ground).
- The ignition switch input is changed to battery voltage.

The siren is disarmed when any of the following conditions occurs:

- The door is opened with the key.
- The rear deck lid is opened with the key.
- The UNLOCK button or the LOCK button on the remote transmitter is pressed within 2 seconds of the beginning of the alarm. If the UNLOCK button or the LOCK button is not pressed within 2 seconds of the beginning of the alarm, the transmitter will not stop the alarm.

VEHICLE LOCATOR

The remote keyless entry system assists the driver in locating the vehicle. When the vehicle is unlocked with the remote control, the turn signals flash twice to indicate the location of the vehicle. The duration of the flashes and the length of time between flashes is used to indicate certain vehicle conditions. Refer to "Fault or Alarm Indication" in this section.

AUTOLOCKING (SAFETY LOCK)

The remote keyless entry system features an autolocking control. If the doors are unlocked with the remote transmitter when the control module/receiver is in the armed mode, the doors are automatically re-locked after 30 seconds unless any of the following events occur:

- The door is opened.
- The ignition switch is turned ON.
- The rear deck lid is opened.
- The hood is opened.

CONTROL MODULE/RECEIVER

The remote keyless entry control module/receiver is contained in the floor console. The module/receiver processes signals from the remote transmitter and the intrusion sensors, and it activates the alarm if an intrusion is detected. The control module/receiver also has a selfdiagnostic function which will display trouble codes. In order to display trouble codes, a scan tool must be connected to the assembly line diagnostic link (ALDL) connector.

The control module/receiver will not communicate with transmitters from other vehicles because there are over four billion possible electronic password combinations,

and passwords are not duplicated. The control module/receiver has an attached antenna to detect signals from the transmitter.

FAULT OR ALARM INDICATION

When the UNLOCK button on the remote transmitter is pressed, the control module/receiver will flash the parking lamps to indicate information about the remote keyless entry and anti-theft system.

Normal Condition: If there has not been an intrusion, and no fault has been detected, the control module/receiver will signal a normal condition when the UNLOCK button is pressed. The parking lamps will flash twice for 0.5 second, with a 0.5 second pause between flashes.

Fault Indication: If there is a fault in the remote keyless entry and anti-theft system, the control module/receiver will signal the fault when the UNLOCK button is pressed. The parking lamps will flash twice for 1 second, with a 0.5 second pause between flashes.

Alarm Indication: If there has been an intrusion since the last time the LOCK button was pressed, the control module/receiver will signal that there has been an intrusion when the UNLOCK button is pressed. The parking lamps will flash twice for 0.5 second, with a 1.5 second pause between flashes.

Alarm and fault information in the control module/receiver will be erased the next time the control module/receiver enters the armed condition after receiving a LOCK message from the transmitter.

PANIC BUTTON

In addition to the LOCK and UNLOCK buttons on the transmitter, there is the panic button. This button is used to activate the siren if a threatening situation occurs while the driver is approaching the vehicle. If the panic button is held down for 2 seconds, the siren will be activated for 30 seconds, and the parking lights will flash during that time.