



**Model 821FJ**

**Lighting System Trainer  
Supplement Service Manual  
Information**

**2003 Chevrolet Impala**

**VIN W**

Published by ATech Training, Inc.

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# **Body and Accessories**

## **Lighting Systems**

### **Schematic and Routing Diagrams**

#### **Headlights/Daytime Running Lights (DRL) Schematics**

**DRL Relay, Headlamps, and Power [w/o 6J7]**

**DRL Relay, Headlamps, and Power [w/ 6J7]**

**Indicators, and Lamp Control**

#### **Interior Lights Dimming Schematics**

**Dimming Control, and Steering Wheel Controls**

**I/P**

**Class 2 Dimming**

### **Description and Operation**

**Exterior Lighting Systems Description and Operation**

**Interior Lighting Systems Description and Operation**

## **Instrument Panel, Gages, and Console**

### **Schematic and Routing Diagrams**

#### **Instrument Cluster Schematics**

**Gages, Illumination, and Indicators**

**Message Center**

## **Theft Deterrent**

### **Schematic and Routing Diagrams**

#### **Theft Deterrent System Schematics**

### **Description and Operation**

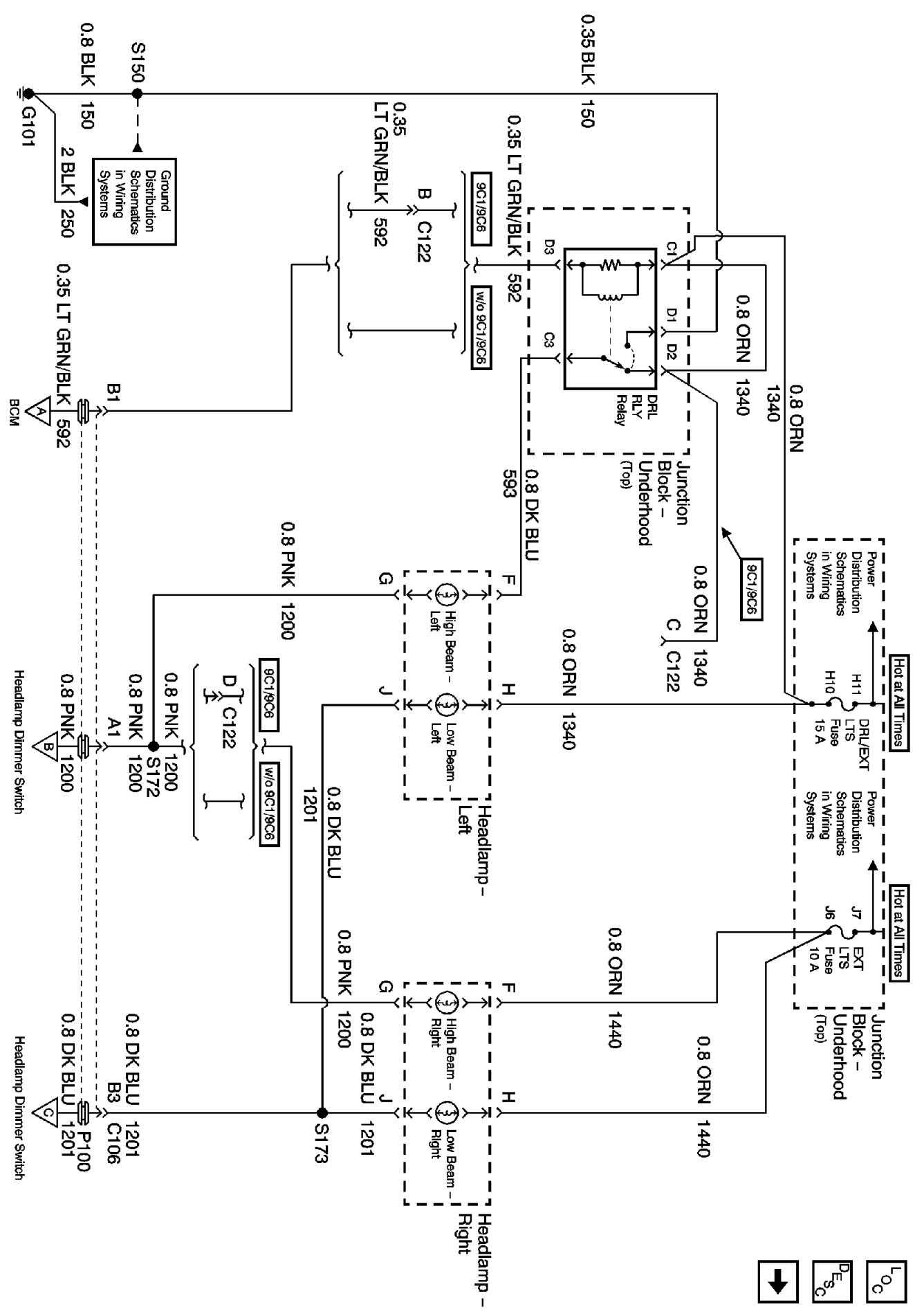
**Content Theft Deterrent (CTD) Description and Operation**

## **Doors**

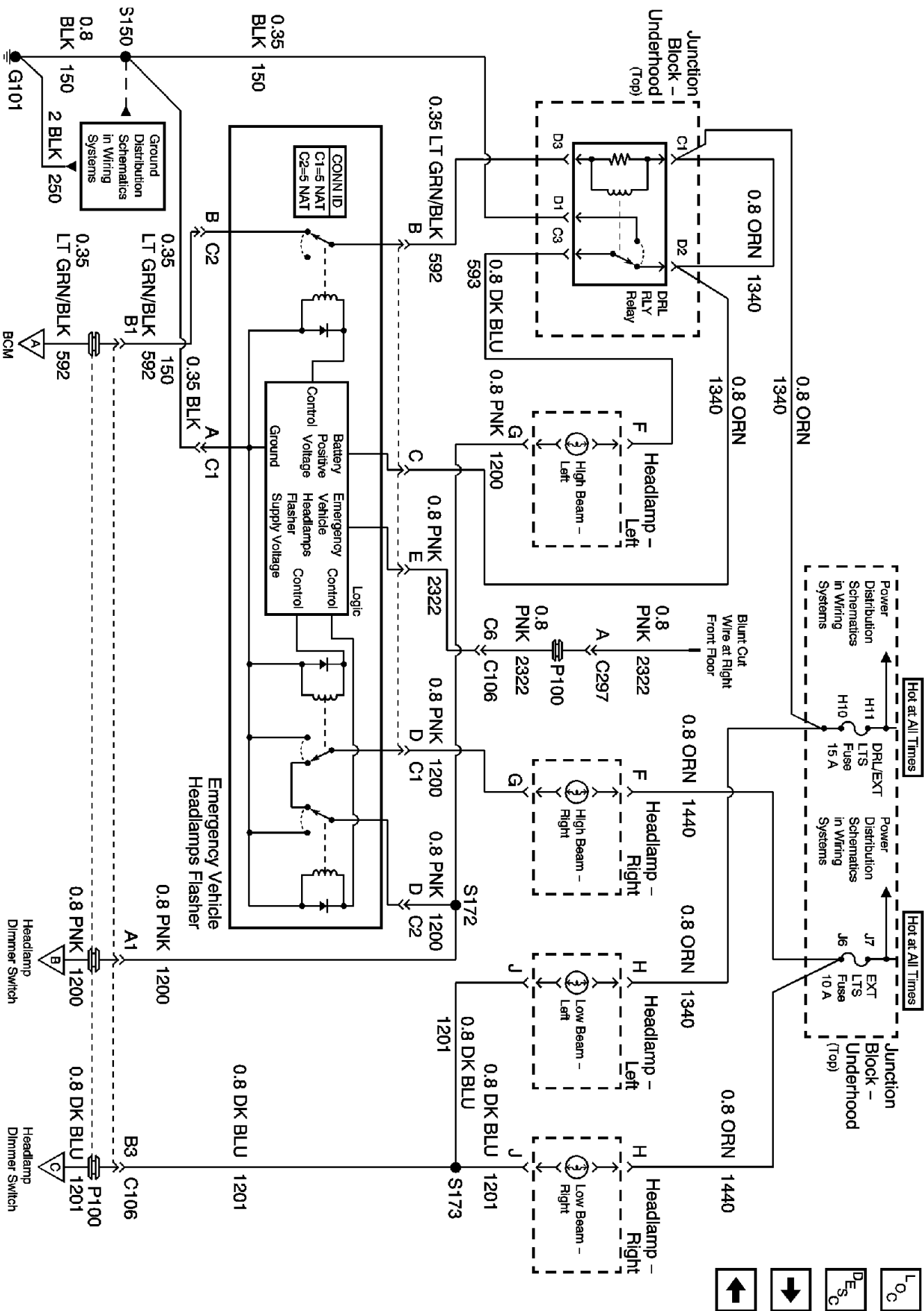
### **Description and Operation**

**Door Ajar Indicator Description and Operation**

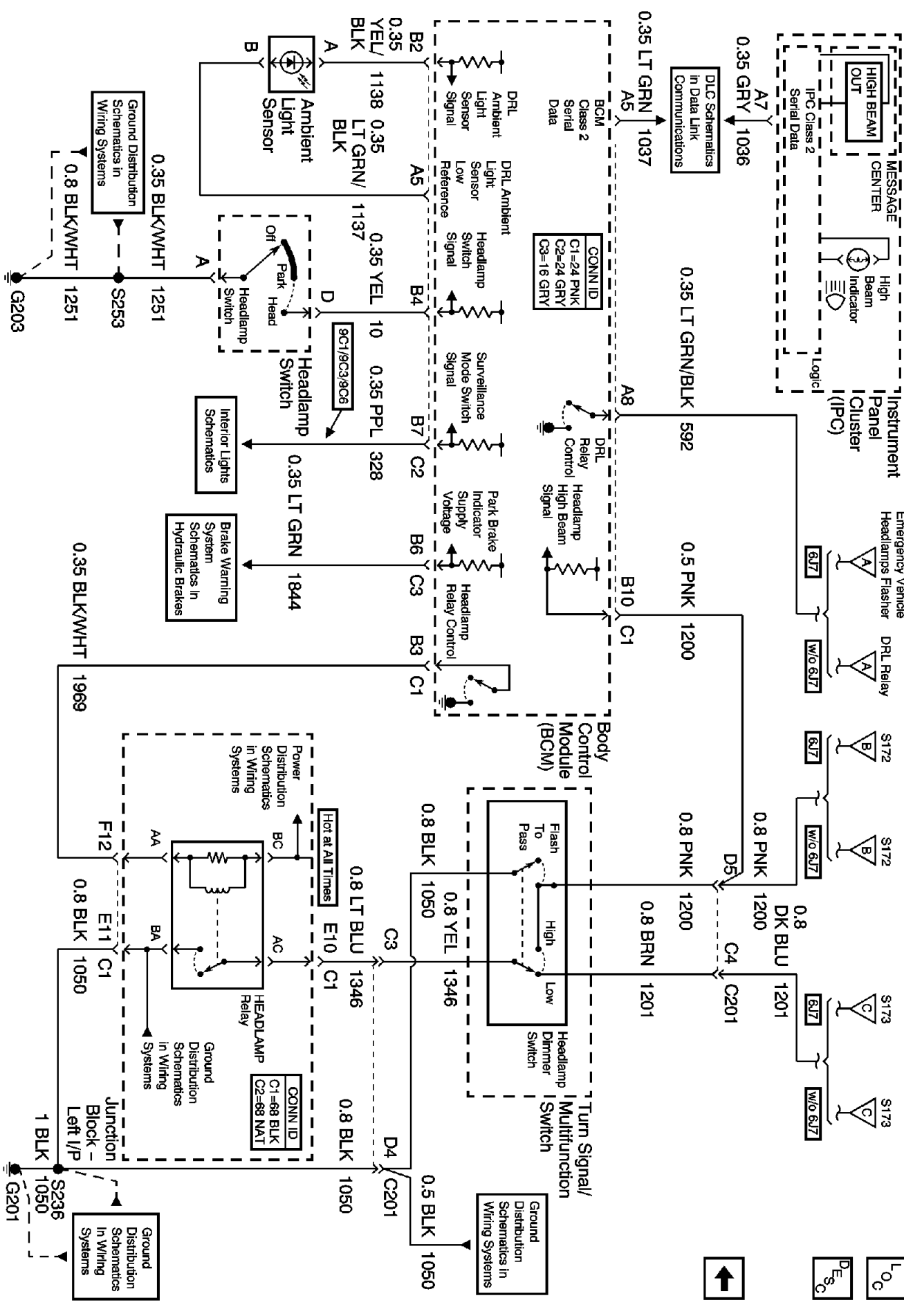
# DRL Relay, Headlamps, and Power (w/o 6J7)



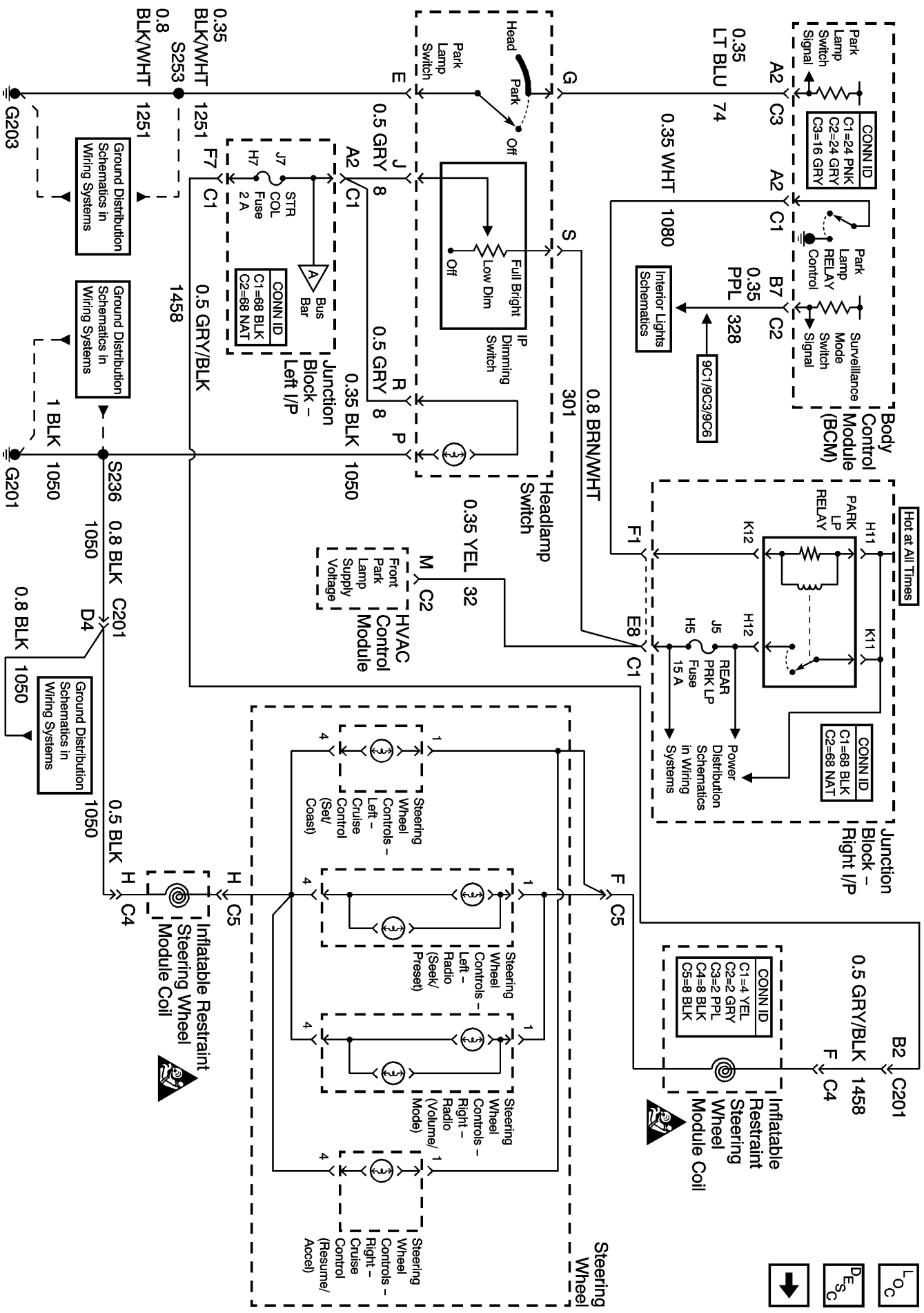
# DRL Relay, Flasher, Headlamps, and Power (6J7)

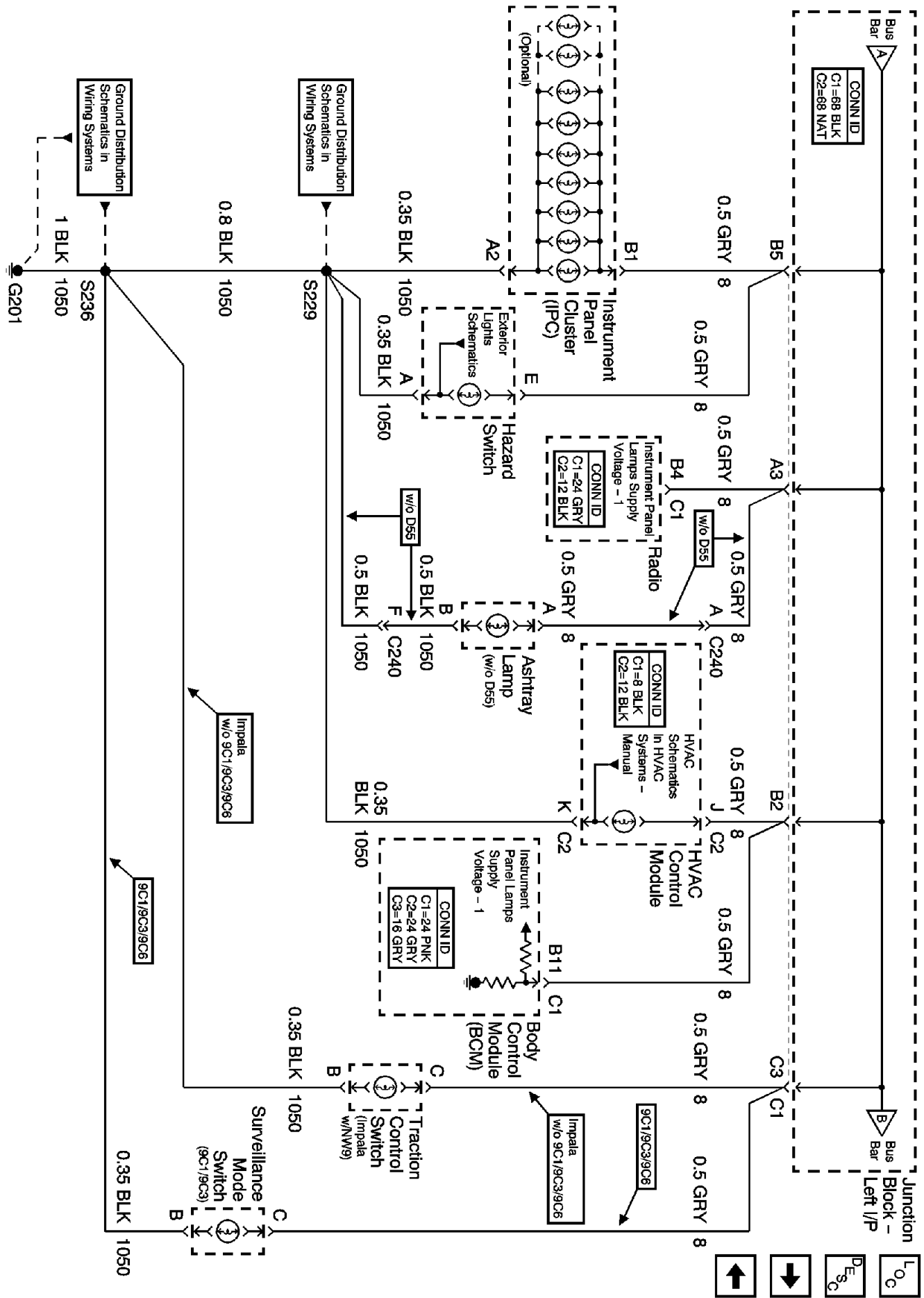


# Indicators, and Lamp Control

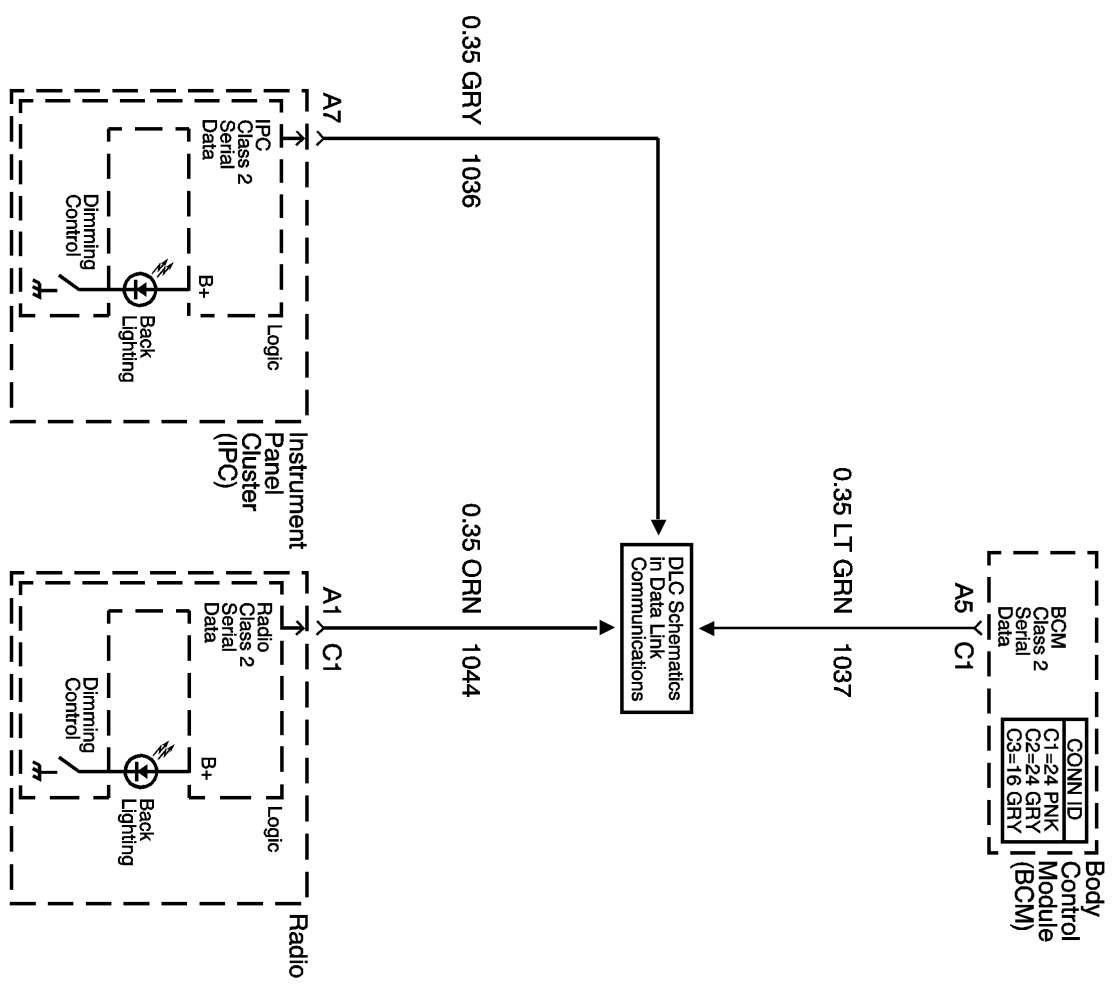


# Dimming Control, and Steering Wheel Controls





# Class 2 Dimming



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# Exterior Lighting Systems Description and Operation

## Exterior Lamps

The exterior lighting consists of the following lamps:

- The Headlamps
- The Daytime Running Lamps (DRL)
- The Fog Lamps
- The Park, Tail, Licence and Marker Lamps
- The Turn Signal Lamps
- The Stop Lamps
- Special Equipment Option (SEO) Lighting
- The Backup Lamps

## Headlamps

You can use the headlamps in two different ways.

- Place the headlamp switch in the ON position for normal operation.
- Place the headlamp switch in the OFF position for automatic lamp control (ALC). During ALC the high beam headlamps are On at reduced intensity for daytime running lamp (DRL) operation in daylight conditions, or low beam headlamps On in low light conditions.

The DRL/EXT LTS fuse and the EXT lamps fuse in the underhood junction block supply battery positive voltage at all times to both of low beam lamps and to the right high beam lamp. The low beam circuit continues to the high/low beam switch, then, depending on the position of the dimmer switch, connects to the normally-open headlamp relay switch contacts. Placing the headlamp switch in the HEAD position provides a ground path for the headlamp switch input of the Body Control Module (BCM). After receiving this input, the BCM energizes the headlamp relay. When the headlamp relay is energized, the low beam circuit is connected to ground G201. The high beam circuit is divided into a left and a right side circuit.

The DRL/EXT LTS fuse in the underhood ignition block supplies battery positive voltage to both the coil and to the normally-closed contact of the DRL relay switch circuit. During high beam operation, the left side current flow is through the closed contacts of the DRL relay, and to the left high beam lamp.

The EXT Lamps fuse in the top of the engine fuse block supplies battery positive voltage to the right high beam lamp. Both high beam circuits are then connected together, and continue to the dimmer switch. When the driver closes the high beam contacts of the dimmer switch, the circuit is grounded at G201.

Both the headlight switch and the BCM provide a ground, or control circuit, to the headlight relay coil circuit for manual or automatic headlamp operation. When you place the headlamp switch in the OFF position, and the ambient light sensor indicates low light conditions, the BCM energizes the headlamp relay for low beam operation. You may switch the headlights to high beam by pulling the dimmer switch handle toward you until the dimmer switch is activated. When the dimmer switch is placed in the HIGH position, the indicator lamp input to the BCM is pulled low. The BCM then sends a class 2 message to the instrument cluster in order to illuminate the high beam indicator lamp.

If the headlamp switch is left in the head position, the inadvertent power control feature will turn off the headlights 10 minutes after you turn the ignition switch to the OFF position. If you place the headlamp switch in the head position after the ignition switch has been turned OFF, or if the ignition switch is in the ACCY position, the headlights will remain ON until you turn them OFF or until the battery runs dead.

## **FTP**

With the headlamps in the low beam position, you may momentarily turn ON or flash the high beams using the dimmer switch handle. When you pull the headlamp dimmer switch handle toward you, the flash-to-pass (FTP) switch closes, grounding the high beam circuit at G201. Both high beams will remain ON until you release the switch handle. If the low beam headlamps were ON during an FTP operation, the headlamps will remain ON.

## **Lights On Warning**

The radio activates the lights on warning as requested by the body control module (BCM). The BCM sends a class 2 message to the radio indicating the chime frequency (fast rate) and duration (continuous).

- The ignition is OFF.
- The BCM determines that the driver's door is open (signal circuit is low).
- The BCM determines that the headlamp switch is in the park or head position.

## **Daytime Running Lamps (DRL)**

The ambient light sensor is a light-sensitive transistor that varies its voltage signal to the body control module (BCM) in response to changes in the outside (ambient) light level. When the BCM receives this signal, the BCM turns ON either the DRL lamps or the headlamp relay for auto headlamp operation. Any function or condition that turns ON the headlamps will cancel the DRL operation.

Thirty seconds after you start the ignition with the headlamp switch set in the OFF position, the DRL will perform one of two actions:

- Illuminate the high beam headlamps at a reduced intensity in daylight conditions
- Illuminate the low beam headlamps in low light conditions

Battery positive voltage is applied at all times from the DRL/EXT LTS fuse in the underhood junction block to the coil side of the DRL relay. When the ambient light sensor indicates a day light condition, the BCM applies a ground to the DRL relay control circuit. This energizes the DRL relay allowing a ground to be applied from G101 through the DRL relay switch side to the left high beam headlamp. When the DRL relay is energized, battery positive voltage is applied from the EXT LTS fuse through the right high beam headlamp, to the left high beam headlamp. The high beam headlamps are now in series, and split the voltage so that the headlamps illuminate a half intensity. The DRL operates when the ignition switch is in the RUN position, and the parking brake is not set or the transmission is not in park. When these conditions have been met and the ambient light sensor indicates daytime conditions, the DRL will illuminate.

## **Fog Lamps**

When the ignition switch is in the ON position and the headlamp switch is in either PARK or HEAD position, the fog lights illuminate whenever you press the fog lamp switch. The FOG RLY fuse in the top of the engine fuse block supplies battery positive voltage to both the fog lamp relay switch contacts and to the fog lamp relay coil circuit. The fog lamp relay coil is controlled by the Body Control Module (BCM). Whenever you press the fog lamp switch, the BCM fog lamp switch input is grounded. The BCM energizes the control circuit of the fog lamp relay coil. The current flows from the fog lamp relay to both front fog lamps and to ground G101. The fog lamps remain ON until you again press the front fog lamp switch, or until you cycle the ignition switch OFF and ON. The park lamps or low beam headlamps must be ON in order for the fog lamps to be illuminated. Fog lamp operation will be cancelled whenever the park lamps are turned OFF or the high beam headlamps have been selected.

## **Park, Tail, Marker Lamps, and License**

The park, tail and marker lamps, including the license lamps, turn on when the headlamp switch is placed in either the PARK or the HEAD position, or anytime the headlamps are requested. The RT I/P #1 fuse in the RH I/P fuse block supplies battery positive voltage to both the park lamp relay switch contacts and to the park lamp relay coil circuit. The park lamp relay coil is controlled by the body control module (BCM). When the headlamp switch is placed in the PARK position, the BCM energizes the park lamp relay coil control circuit.

Current flows from the park lamp relay switch to both front and rear park lamp fuses and to their respective park/tail lamps. The front park lamps are grounded at G101. The rear park lamps are grounded at G302. The license plate lamps are a part of the rear park lamp circuit and are grounded at G302. The inadvertent power control feature prevents the park lamps from remaining on more than 10 minutes if left on. If the park lamps are turned on after the ignition switch has been turned OFF, or is in the ACCY position, they will remain on until turned off or until the battery runs dead.

A surveillance mode is available in Special Equipment Option (SEO) vehicles. The headlamps and park lamps may be disabled by using the emergency vehicle interior lamp switch.

## **Remote Keyless Entry Exterior Lamp Illumination**

When the remote function actuation (RFA) module receives a door unlock command from the RFA transmitter, the RFA module will perform the following tasks:

- Ground the door unlock signal circuit to the body control module (BCM)
- Send a class 2 message to the BCM indicating that an UNLOCK command has been received

The BCM will then flash the park lamps twice. If the doors are closed when you use the RKE transmitter in order to lock the doors, the park lamps will flash twice. The park lamps will not flash if you use the RKE transmitter in order to open the rear compartment.

## **Turn Signal Lamps**

The TURN SIGNAL fuse in the LH I/P fuse block supplies ignition positive voltage to the hazard and turn signal lamp flasher assembly. The HAZ SW fuse in the RH I/P accessory wiring junction block also supplies battery positive voltage to the hazard and turn signal lamp flasher assembly. The turn signal lamps may activate only when the ignition switch is in the ON or START position.

When the turn signal switch is placed in either the left or right position, current flows from the flasher module's output to the turn signal switch assembly. The flasher module then sends an on-off voltage signal to either the left or the right turn signals and their instrument cluster (IPC) indicator. When you press the hazard switch, all the turn signal lamps and both of the IPC turn signal indicators will flash. The hazard and turn signal lamp flasher assembly is grounded at G201. The front turn signals are grounded at G101 and the rear turn signals are grounded at G302.

## **Turn Signal On**

The Radio activates the turn signal on audible warning as requested by the body control module (BCM). The BCM sends a class 2 message to the radio indicating the chime frequency ( fast rate) and duration (2 seconds).

## **Stop Lamps**

The BRAKE SW fuse in the RH I/P fuse block supplies battery positive voltage to the normally-open stop lamp switch. When you press the brake pedal the switch contacts close and battery positive voltage is

supplied to the left and right stop lamp assemblies and to the center high mounted stop lamp (CHMSL). The left and right stop lamps along with the CHMSL are grounded at G302.

## **Rear Window Panel Lamps (SEO, RPO 6J6)**

The rear window panel lamp system on Special Equipment Option (SEO) vehicles, consists of two red lensed lamps that function as auxiliary turn signal and stop lamps. The wiring necessary for the additional emergency lamps on SEO vehicles consists of battery positive voltage supplies, circuit breakers, an emergency flasher, and relays. The lamps are mounted to the rear window panel.

## **Rear Compartment Lid Lamps (SEO, RPO T53)**

The rear compartment lid lamps on Special Equipment Option (SEO) vehicles, consists of two red lensed lamps that function as an auxiliary flashing warning lamp. The wiring necessary for the additional emergency lamps on SEO vehicles consists of battery positive voltage supplies, circuit breakers, an emergency flasher, and relays. The lamps are mounted on the inner trunk lid. When you raise the lid a switch closes and the lamps alternately flash.

## **Spot Lamps and Front Lamps (SEO, RPO 9C1, 9C6, 7X6 and 7X7)**

The spot lamp system on Special Equipment Option (SEO) vehicles consists of either one left spot lamp (RPO 7X6), or two left and right spot lamps (RPO 7X7). The spot lamps are mounted to either the left or right hand windshield pillars and contain their own ON/OFF switch. Battery positive voltage is supplied to the spot lamps through their own respective fuses. All other wiring is blunt-ended to be used on SEO vehicles as necessary.

## **Surveillance Mode Switch (SEO)**

The Surveillance Mode Switch turns off the daytime running lamps (or low beam headlamps and tail lamps during nighttime hours), instrument cluster, PRNDL and radio indicators. Interior courtesy lights are also disabled when switch is activated.

## **Backup Lamps**

The B/U LAMP fuse in the RH I/P fuse block supplies battery positive voltage to the switch terminal of the backup lamps relay. The DIC/RKE fuse supplies battery positive voltage to the backup lamps relay coil terminal. When you place the gear selector lever in the REVERSE position, the powertrain control module (PCM) sends a class 2 message to the body control module (BCM). When these conditions occur, the BCM energizes the reverse lamp relay control circuit, closing the switch contacts, the current flows from the reverse lamp relay switch to the backup lamps. The backup lamps are grounded at G302.

## **Battery Rundown Protection / Inadvertent Power**

The body control module (BCM) controls the lighting system through circuits that enable the park lamps, head lamps and fog lamps as well as the interior lamps. The BCM opens these enabling circuits 20 minutes after the ignition switch is turned OFF with no subsequent lamp switch activity. If the ignition switch is turned to any position other than OFF, or if a lamp switch is activated, during this 20-minute period, the timer will reset for another 20 minutes.

## **Lighting System Indicator(s)**

### **High Beam**

The IPC illuminates the high beam indicator when the body control module (BCM) detects that the high beams are requested. The IPC receives a class 2 message from the BCM requesting illumination.

## **HIGHBEAM OUT**

The IPC illuminates the HIGHBEAM OUT indicator in the message center when the body control module (BCM) detects an open in one of the high beam lamp circuits. The IPC receives a class 2 message from the BCM requesting illumination. The HIGHBEAM OUT indicator illuminates for 60 seconds when the condition is present.

## **Turn Signals**

The IPC illuminates the right or left turn signal indicator when the IPC detects a turn signal request or a hazard request. If the IPC determines that the turn signal is active for more than 1.2 km (0.75 mi), the IPC sends a class 2 message to the radio in order to activate an audible warning.

# Interior Lighting Systems Description and Operation

## Interior Lamps

The interior lamps consists of two groups, lamps that can not be dimmed and lamps that can be dimmed. This first group consists of lamps that may not be dimmed. This Includes those lamps that may be manually turned on by placing the interior lamp switch to the DOME position, or by opening a door or a compartment:

- Auxiliary dome lamp (SEO, RPO 6C7)
- Dome lamp
- Inside rear view mirror lamps
- Instrument panel (I/P) compartment lamp
- I/P courtesy lamps
- Reading lamps
- Rear compartment courtesy lamp
- Sunshade vanity mirror lamps

Battery positive voltage is applied at all times to the DIC/RKE fuse and to the switched side of the BATT RUNDOWN PROTECTION relay in the right I/P junction block. The DIC/RKE fuse supplies battery positive voltage to the coil side of the BATT RUNDOWN PROTECTION relay. When the ignition is turned to the ON position, the body control module (BCM) provides a ground to the courtesy lamp relay control circuit. This energizes the BATT RUNDOWN PROTECTION relay and applies battery positive voltage to I/P BRP fuse and to the TRK/ROOF/BRP fuse. Battery positive voltage is applied from the I/P BRP fuse to the I/P courtesy lamps, I/P compartment lamp and to the courtesy lamp supply voltage circuit to the BCM. Battery positive voltage is also applied from the TRK/ROOF/BRP fuse to the:

- Rear compartment courtesy lamp
- Dome lamp
- Inside rear view mirror lamps
- Roof rail/reading lamps assembly
- Sunshade vanity mirror lamps

If the BCM receives a door lock or unlock input signal, the BCM will activate the BATT RUNDOWN PROTECTION relay, which provides battery positive voltage to all interior courtesy lamps. When any door is opened, the door jam switch contacts close and the BCM receives a door-open input signal. The BCM then applies a ground to the interior lamp control circuit and to the courtesy lamp low control circuit illuminating the courtesy and dome lamps.

After all the doors are closed, the courtesy lamps remain illuminated for approximately 40 seconds. The courtesy lamps will also turn on and remain illuminated for approximately 15 seconds after the ignition key is removed, prior to any door being opened.

When the headlamp switch is placed in the DOME position, the BCM receives a ground signal. The BCM then applies a ground to the interior lamps control circuit. This illuminates the dome and roof rail lamps.

The courtesy lamps will normally turn off using the theater dimming feature. The BCM provides a pulse width modulated ground to all courtesy/reading, dome, and inside rear view mirror lamps for the theater dimming feature. The BCM will immediately turn off the courtesy lamps if a door lock command is received with all the doors closed, or if the ignition switch is turned to either the ON or RUN position.

The BCM activates the interior lighting output 15 seconds after receiving the class 2 message "Airbags Deployed" from the sensing and diagnostic module (SDM). The interior lamps remain activated for 25 minutes.

## **Auxiliary Dome Lamp (SEO, RPO 6C7)**

An auxiliary dome lamp on special equipment option (SEO) vehicles is mounted to the headliner near the windshield. The auxiliary dome lamp is turned ON using a switch at its base.

## **Interior Lamps (SEO)**

When the emergency vehicle interior lamp switch is turned to the OFF position, the interior lamps are deactivated immediately.

## **I/P Compartment Lamp**

The I/P BRP provides battery positive voltage to the instrument panel compartment lamp. When the I/P compartment is opened, a switch closes, providing a ground circuit to G201, and the I/P compartment lamp illuminates.

## **Keyless Entry Interior Illumination**

When the door key is used to unlock the doors, the BCM receives a door unlock signal. The BCM activates the interior lamps, provided the BCM has input signals indicating the following conditions:

- The ignition switch is OFF
- The courtesy lamp switch is OFF
- All the doors are closed

If the door locks are activated to the LOCK position, or if the ignition switch is turned to either the RUN or CRANK position the courtesy lamps turn off immediately, otherwise the courtesy lamps will remain on for approximately 40 seconds after the door is closed. The BCM turns the courtesy lights off through the theater dimming feature.

If the remote function actuator transmitter is used to unlock the doors or the trunk, or if the panic button is pressed, the BCM will keep the courtesy lamps on for approximately 15 seconds. If the door locks are activated to the UNLOCK or LOCK position, or if the ignition switch is turned to either the RUN or CRANK position, the courtesy lamps will turn off immediately.

The BCM keeps the courtesy lamps on for approximately 40 seconds after an alarm event is completed.

The courtesy lamps in special equipment option (SEO) vehicles may be disabled by using the emergency vehicle interior lamp switch, called surveillance mode.

## **Rear Compartment Lamp**

The TRK/ROOF fuse provides battery positive voltage to the rear compartment lamp. When the rear compartment is opened, the rear compartment lid ajar switch closes, providing a ground circuit to G302 and the rear compartment lamp illuminates.

## **Sunshade Vanity Lamps**

The TRK/ROOF fuse provides battery positive voltage to each vanity mirror lamp. When the vanity mirror cover on the sunshade is opened, a switch closes, providing a ground circuit to G302, and the vanity lamps illuminate.

## **Interior Lamps Dimming**

The second group of interior lighting includes lamps which may be dimmed. This group uses a combination of class 2 controlled illumination and incandescent lamps:

- Ashtray lamp
- Door switches and window switches
- Fog lamp switch
- HVAC control head assembly
- Outside rear view mirror switches
- Radio
- Steering wheel controls
- Instrument panel cluster (IPC)
- Traction control switch
- Headlamp switch
- Hazard switch
- Heated seat switch
- The rear view mirror lamps
- Surveillance mode switch (SEO, 9C1/9C3)

The RH instrument panel (I/P) fuse block supplies battery positive voltage to both the coil and normally open switch contacts of the park lamp relay. When the body control module (BCM) energizes the park lamp relay, current flows from the park lamp relay switched contacts through the REAR PARK LP fuse to the I/P dimming switch. When dimming is selected, by moving the I/P dimming switch, all incandescent back lighting lamps (see schematics) and the BCM are provided with a variable voltage through the instrument panel lamp supply voltage #1 circuit. The incandescent back lighting lamps are then grounded at G201, G203 and G302. The BCM then applies a message signal to the class 2 circuit to the IPC and radio. The class 2 displays then dim to the level set by the I/P dimmer switch. When the I/P dimmer switch is moved from MIN to MAX, all class 2 displays and all incandescent back lighting respond from minimum intensity to maximum brightness.

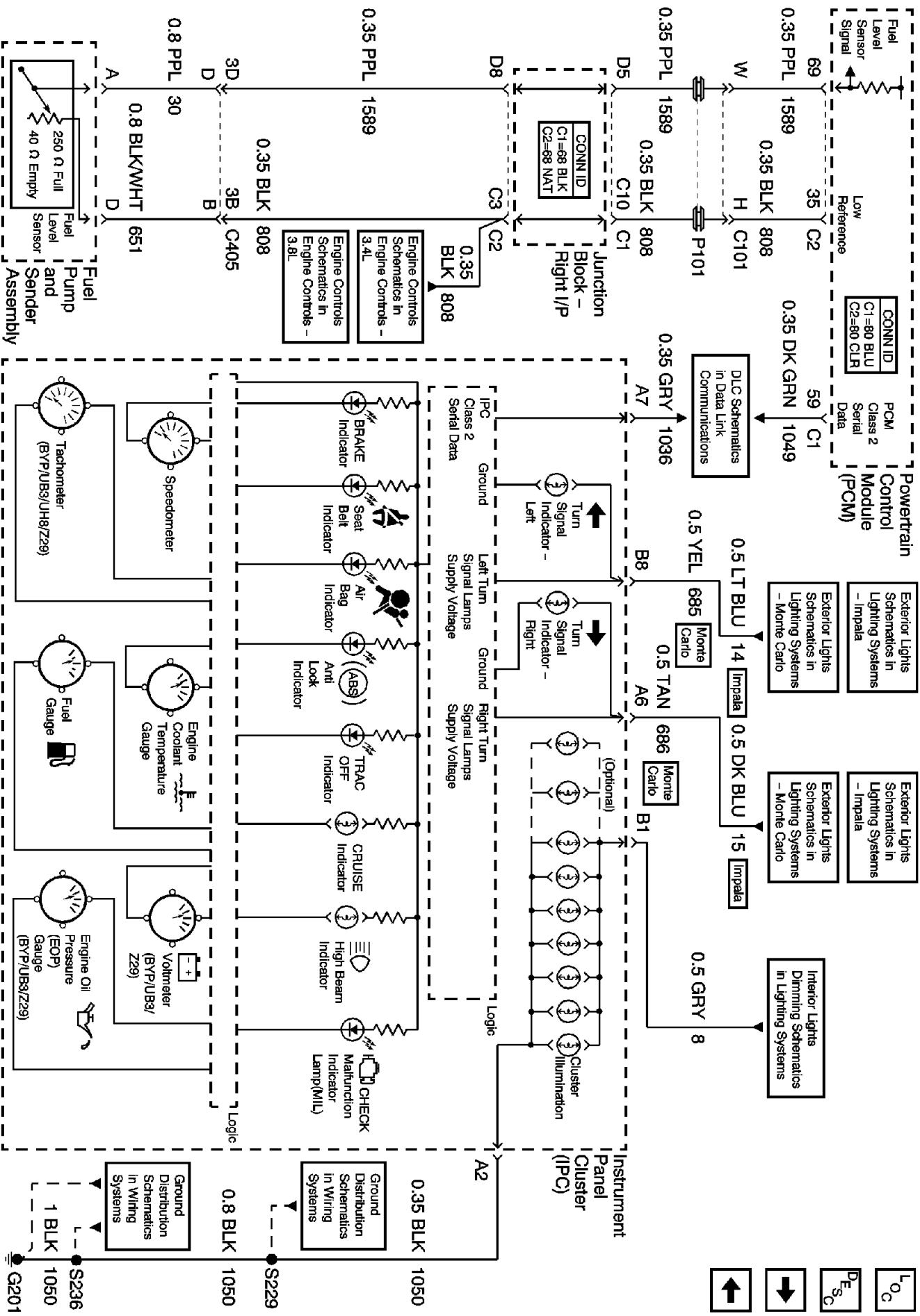
Parade mode may be selected by manually turning on the park lamps during daylight conditions. The front park lamp circuit supplies voltage the HVAC assembly for a park lamp on input, and the display will become full bright. The BCM applies a message signal to the class 2 circuit to the IPC and radio commanding the displays to become full bright. The surveillance mode switch (SEO) overrides this feature.

## **Battery Rundown Protection / Inadvertent Power**

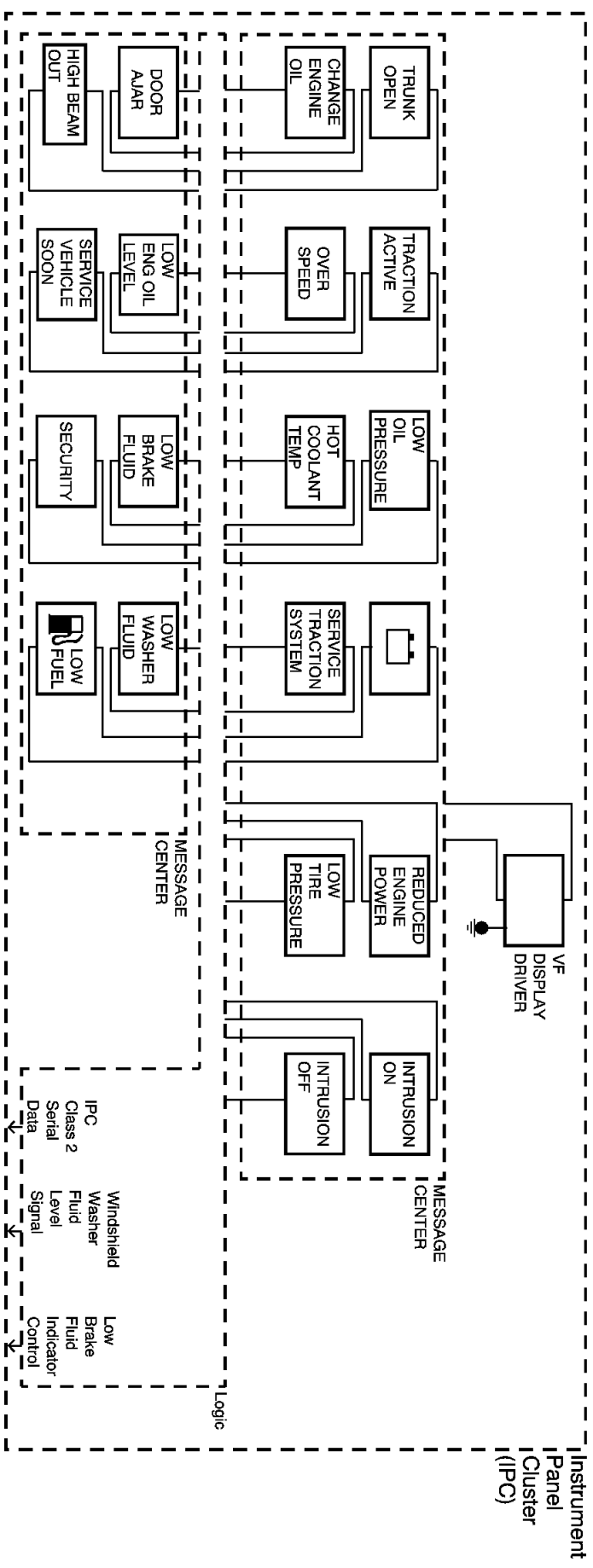
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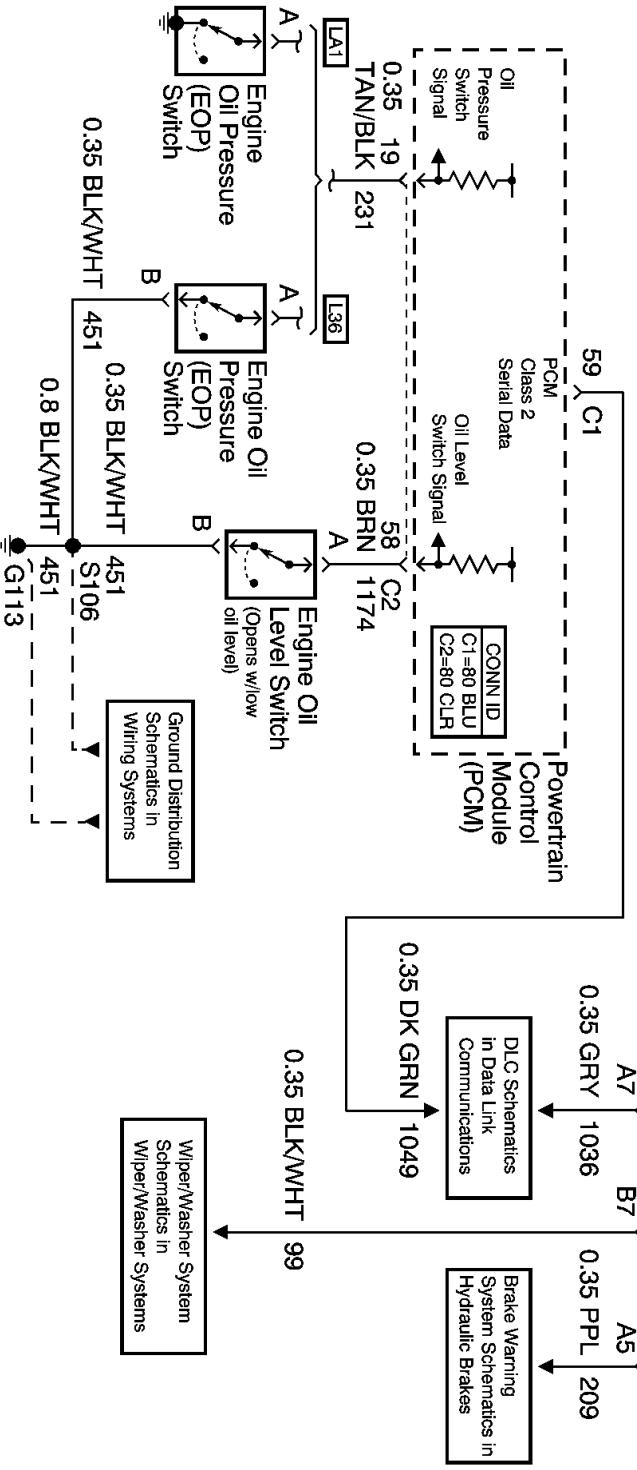
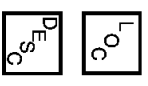
# Gages, Illumination, and Indicators



# MESSAGE CENTER



Instrument Panel Cluster (IPC)



Powertrain Control Module (PCM) Class 2 Serial Data

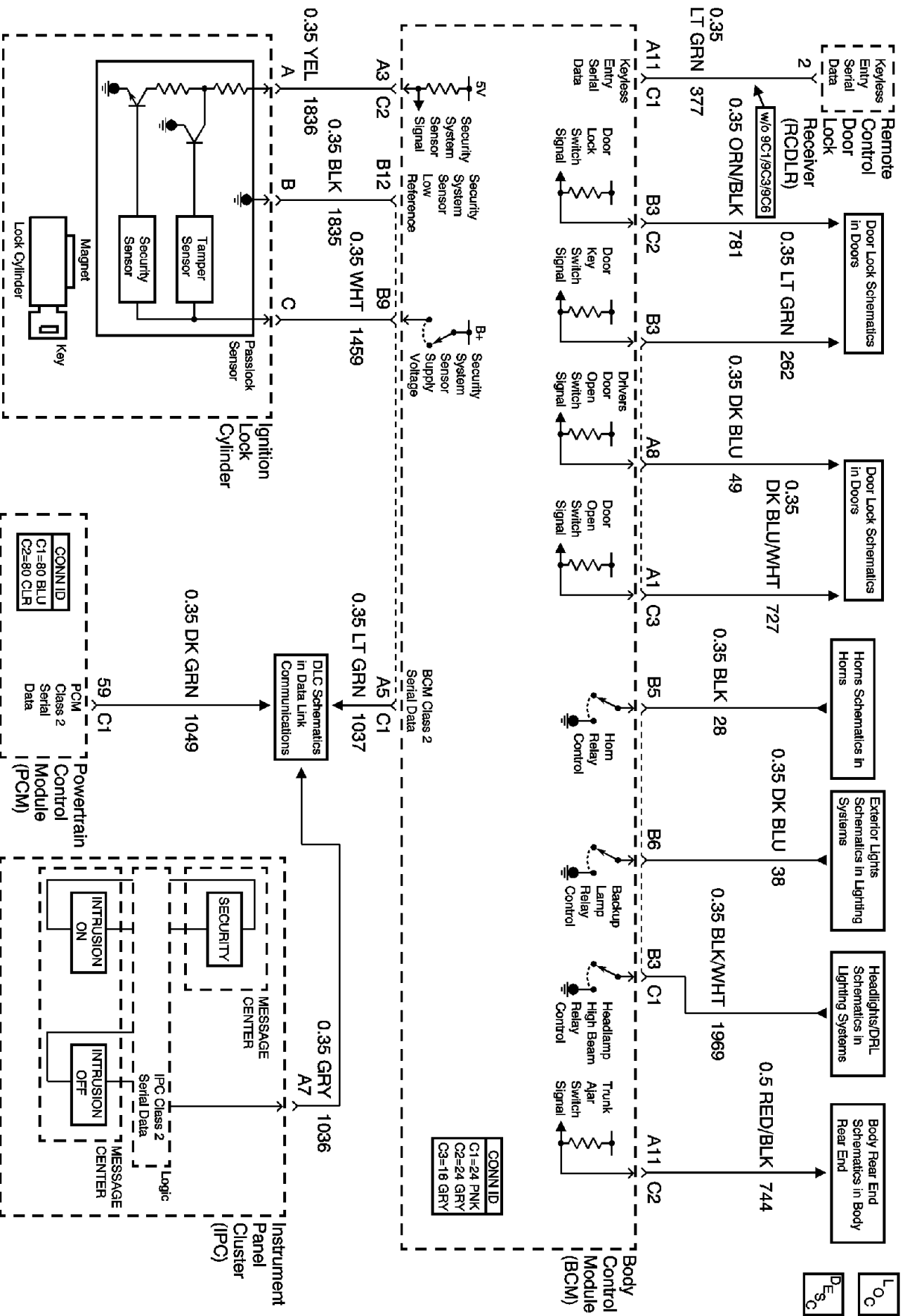
CONN ID C1=80 BLU C2=80 CLR

Ground Distribution Schematics in Wiring Systems

Wiper/Washer System Schematics in Wiper/Washer Systems

Brake Warning System Schematics in Hydraulic Brakes

# Theft Deterrent System Schematics



# Content Theft Deterrent (CTD) Description and Operation

The CTD system (when armed) is designed to deter vehicle content theft by pulsing the horns and exterior lamps for approximately 2 minutes when an unauthorized vehicle entry is detected. However, the CTD system does not affect engine starting.

An unauthorized entry can be any of the following with the CTD system armed:

- Forced entry into the passenger compartment.
- When any door is opened without being unlocked by using the key to unlock either of the front doors or the UNLOCK command from a Keyless Entry Transmitter.
- Forced entry into the rear compartment.

The components of the system are:

- Keyless Entry Module (Remote Control Door Lock Receiver)
- Door Ajar Switches
- Body Control Module
- Front Door Lock Cylinder Switches
- Power Door Lock Switches

## Arming the CTD System

Use the following procedure in order to arm the system:

- Place the shift lever in P (park).
- Turn OFF the ignition.
- Open any door.

**Important:** The system is not armed if the doors are locked manually, the power door lock switch or remote keyless entry transmitter must be used to arm the CTD system.

- Lock the doors with the power door lock switch or the LOCK button on the transmitter. The system is in standby mode and will not start the arming timer until all doors are closed.
- The system will arm approximately 30 seconds from the time that the last door is closed. This delay is shown by the SECURITY indicator ON STEADY. When the indicator transitions to OFF, the system is armed.

## Locking The Vehicle Without Arming The CTD System

Locking the vehicle may be accomplished without arming the CTD system. Use of the manual door locks or using the key to lock the doors will lock the vehicle but will not arm the CTD system.

## Disarming an armed system/silencing an alarm

If system arming has been requested by the power door lock switch or the keyless entry transmitter, it must be disarmed.

**Important:** Using the power door unlock switch or manually unlocking the doors does not disable the CTD arm mode. Also, disconnecting the battery or pulling fuses does not disable the arm mode, since the BCM stores the CTD mode status in memory.

- To disarm the CTD system in standby mode (SECURITY indicator flashing and door(s) open), perform one of the following:
  - Press either power door unlock switch.
  - Use a key to unlock either front door.
  - Press the UNLOCK button on the keyless entry transmitter.
  - Insert a valid key into the ignition and switch to the ON position.
- To disarm the CTD system in the armed mode:
  - Use the key to unlock the either front door.
  - Press the UNLOCK button on the keyless entry transmitter.
  - Insert a valid key into the ignition and switch to the ON position
- To disarm the CTD system when activated (alarming mode).
  - Use the key to unlock either front door.
  - Press the UNLOCK button on the keyless entry transmitter.
  - Insert a valid key into the ignition and switch to the ON position.

## **CTD Circuit Description**

The following is a description of each component used in the CTD system:

### **Keyless Entry Module (Remote Control Door Lock Receiver)**

The keyless entry system can arm and disarm the CTD system. When the keyless entry module receives a door lock or unlock signal from the transmitter, the keyless entry module sends a message to the BCM on the keyless entry serial data link to perform the appropriate arm/disarm functions.

### **Door Ajar Switches**

The CTD system uses the door ajar switches in the door lock assemblies as one method to activate the alarm. The body control module (BCM) monitors all door ajar switches via a discrete input from each door ajar switch, including the rear compartment. If the BCM receives a ground signal from a door ajar switch when the CTD system is armed, the BCM activates the alarm.

### **Body Control Module (BCM)**

The CTD system is an internal function of the Body Control Module (BCM) which utilizes class 2 serial data and various switch input information to perform CTD functions. When the BCM detects an unauthorized entry, it activates the horns and exterior lamps. The BCM has five basic modes (disarmed, standby, delayed, armed, and alarm) for operating the CTD system. The different modes are described below.

- The BCM has the CTD system in a disarmed mode until the following conditions are detected:
  - Ignition key turned to the OFF position.
  - Any door open.
  - Doors locked by either the power door lock switch or the LOCK button on the transmitter.
- The BCM enters the standby mode when the above conditions are detected. In standby mode, the BCM commands the SECURITY indicator to flash. If all the doors are closed and the LOCK button on the transmitter is used, the BCM enters the delayed mode.
- When the last door is closed, the BCM enters the delayed mode for 30 seconds. In delayed mode the BCM commands the SECURITY indicator to illuminate ON steady.
- After 30 seconds, the BCM enters the armed mode. Any forced entry activates the alarm mode.
- When the BCM detects a forced entry, the BCM enters the alarm mode. The BCM activates the horns and exterior lamps for 2minutes. This is followed by a three minute time-out with the horn

no longer active. If no new intrusions are detected after the time-out, the horn is not active. The system must be disarmed or the intrusion condition removed after the time-out for the system to exit alarm mode.

## **Front Door Lock Cylinder Switches**

The door lock cylinder switches located in the driver and front passenger doors are a discrete input to the BCM. The BCM utilizes each of these inputs to disarm the CTD system. Inserting a key and turning to the unlock position will disarm the CTD system.

## **Power Door Lock Switches**

The power door lock switches are used to either arm or disarm the CTD system. Pressing the lock position will cause the CTD to arm after all doors are closed and the 30 second delay period has elapsed. Pressing the unlock position will disarm the CTD system.

## **Important**

The CTD system can be armed with the windows or sunroof open.

## **Inputs**

The BCM monitors the following inputs:

- Driver and passenger door ajar switches
- Driver and passenger power door lock/unlock switches
- Front door lock cylinder disarm switches
- Rear compartment ajar switch
- Transmitter LOCK/UNLOCK buttons, class 2 message from the Remote Keyless Entry (RKE) Module

## **Outputs**

The BCM controls the following:

- The horn relay
- The exterior lights

# Door Ajar Indicator Description and Operation

## Door Ajar Indicator

The IPC illuminates the DOOR AJAR indicator in the message center when the body control module (BCM) detects that the driver or passenger door is open. The IPC receives a class 2 message from the BCM requesting illumination. If the vehicle is in a forward or reverse gear position, the BCM sends a class 2 message to the radio in order to activate an audible warning.