
2008 Dodge Charger/Magnum Police Upfitter's Guide

Table of Contents

	INTRODUCTION		
1	GENERAL INFORMATION	3	AIRBAGS
2	ELECTRICAL	4	INSTALLATION CONSIDERATIONS

INTRODUCTION

TABLE OF CONTENTS

Page

INTRODUCTION 1

INTRODUCTION

The Police Upfitter's Guide has been prepared with the assistance of service and engineering specialists to assist vehicle upfitters in achieving the highest standards of safety and quality in their products.

This guide is divided into topics pertinent to upfitters of police vehicles. References are made to the 2008 Dodge Charger and Magnum Service Manual for appropriate service procedures, torques specifications, component separation clearances, and other standard information that is common with the unmodified vehicle.

The Police Upfitter's Guide does not provide information on how to remove, install, or repair vehicle parts or equipment. This guide must be used as a reference to help ensure that certain important steps in the modification process have been considered. Chrysler LLC provides this information only to assist the upfitters, and does not warrant the products, procedures, materials, or the workmanship of the upfitters. Chrysler LLC does not provide warranty coverage against failures that result from modification of the vehicle.

Following the guidelines contained in this guide does not assure the individual upfitters that the products they modify comply with the U.S. Federal or Canadian Motor Vehicle Safety Standards in effect at the time of the modification. The guidelines set forth are based on engineering analyses of the typical police vehicles. If followed, the upfitter's efforts in certifying vehicles to applicable standards should be aided. Compliance testing that may be required for certification of specific vehicle configurations or constructions is, however, the sole responsibility of the individual modifier.

GENERAL INFORMATION

TABLE OF CONTENTS

	Page		Page
DISCLAIMER	1	VEHICLE IDENTIFICATION	5
CAUTIONS AND WARNINGS	1	NEW VEHICLE STORAGE	10
VEHICLE MODIFICATION	2		

DISCLAIMER

NOTE: The descriptions and the specifications contained in this guide were in effect at the time this manual was released. Chrysler LLC reserves the right to discontinue models or change specifications or designs at any time without notice and without incurring any obligation.

This publication provides general guidelines and directions for installing police related equipment on the Dodge Charger and Magnum police certified vehicles. Following these guidelines and using appropriate installation procedures is essential for the safe, reliable operation of the vehicles as well as the personal safety of the individual performing the work.

Anyone who deviates from the guidelines provided in this guide must first make sure that personal safety and vehicle integrity are not compromised by his choice of methods, tools or parts.

CAUTIONS AND WARNINGS

It is important to note that this guide contains WARNINGS against procedures which could result in an accident or bodily injury. It also contains CAUTIONS against procedures which could result in damage to the vehicle or render it unsafe. It is important to understand that these CAUTIONS and WARNINGS are not exhaustive, because it is impossible to warn of all the possible hazardous consequences that may result from failure to follow these instructions. Follow these general warnings and cautions any time work is performed on a vehicle.

To avoid injury, please obey the following Warnings and Cautions:

WARNING: ALWAYS WEAR SAFETY GLASSES FOR EYE PROTECTION.

WARNING: USE SAFETY STANDS ANYTIME A PROCEDURE REQUIRES BEING UNDER A VEHICLE.

WARNING: REMOVE THE IGNITION OFF DRAW (IOD) FUSE, THE AIRBAG FUSES, AND MAKE SURE THAT THE IGNITION SWITCH IS ALWAYS IN THE OFF POSITION, UNLESS THE PROCEDURE REQUIRES IT TO BE ON.

WARNING: SET THE PARKING BRAKE AND PLACE THE TRANSMISSION GEAR SELECTOR IN PARK WHEN WORKING ON ANY VEHICLE.

WARNING: OPERATE THE ENGINE ONLY IN A WELL-VENTILATED AREA.

WARNING: KEEP AWAY FROM MOVING PARTS WHEN THE ENGINE IS RUNNING, ESPECIALLY THE FAN AND BELTS.

WARNING: TO PREVENT SERIOUS BURNS, AVOID CONTACT WITH HOT PARTS SUCH AS THE RADIATOR, EXHAUST MANIFOLD(S), TAIL PIPE CATALYTIC CONVERTERS AND MUFFLERS.

WARNING: ALWAYS REMOVE THE FUEL TANK, DRAIN, PURGE, AND PLUG THE FUEL LINES WHEN UNDERBODY OR FLOOR PAN WELDING IS REQUIRED.

WARNING: DO NOT ALLOW FLAME OR SPARKS NEAR THE BATTERY. GASES ARE ALWAYS PRESENT IN AND AROUND THE BATTERY.

WARNING: ALWAYS REMOVE RINGS, WATCHES, LOOSE HANGING JEWELRY AND AVOID LOOSE CLOTHING.

WARNING: AFTER INSTALLING ANY EQUIPMENT OR AFTER ANY OTHER WORK IS COMPLETED, TURN THE IGNITION KEY TO THE ON POSITION AND MONITOR THE AIRBAG INDICATOR TO MAKE SURE THERE ARE NO FAULTS IN THE SUPPLEMENTAL RESTRAINTS SYSTEM.

WARNING: USE ONLY THE APPROVED POWER, GROUND, OR SIGNAL SOURCES AS DESCRIBED IN THIS MANUAL. SPLICING, CUTTING, OR ALTERING THE VEHICLE HARNESS CIRCUITS IS NOT PERMITTED.

WARNING: ALWAYS DISCONNECT THE BATTERY CABLE BEFORE PERFORMING ANY ELECTRICAL WORK ON THE VEHICLE.

VEHICLE MODIFICATION

INFORMATION CONCERNING UNITED STATES AND CANADA SAFETY STANDARDS

Chrysler LLC has prepared the following information for persons who intend to modify the 2008 Dodge Charger or Dodge Magnum police prep package vehicles.

The vehicle modifier or alterer is responsible for re-certifying the modified vehicle as altered pursuant to Title 49 of the Code of Federal Regulations S567.7 and S568.6 in the United States or to Section 9 of the Canadian Motor Safety Regulations in Canada. A vehicle modifier is a person or company who modifies a previously certified vehicle other than by the addition, substitution or removal of readily attachable components. Upon completion of the modified vehicle, the vehicle modifier is required by law to certify that it continues to comply with all applicable Federal and Canada Motor Vehicle Safety Standards/Regulations. In addition, the modified vehicle must continue to comply with all applicable Federal, Canada and/or California Emissions regulations. In the United States, sale of a non-complying new vehicle is illegal and is punishable by a fine of up to \$27,500 (Federal) and \$5,000 (California) per vehicle for emissions non-compliance, \$1,000 per vehicle for safety non-compliance, plus recall and other sanctions. Other penalties apply in Canada.

This material is for informational purposes only and sets forth some general observation on this subject. Dealers and/or vehicle modifiers should seek assistance from the legal counselor of their choice to aid them in understanding their specific obligations. Specific questions concerning compliance and/or certification to safety standards and emissions and related (e.g. fuel economy) regulations should be directed to the vehicle modifiers legal counsel or the United States National Highway Traffic Safety Administration (Federal Motor Vehicle Safety Standards and Federal Economy Standards and Requirements), the Canada Department of Transport/Transport Canada (Canada Motor Vehicle Safety/Regulations, including emissions and noise regulations), Industry Canada (Interference-Causing Equipment Standards), the United States Environmental Protection Agency (United States emissions and fuel vapor requirements) or The California Air Resources Board (California emissions and fuel vapor requirements).

Chrysler LLC makes no representations with regard to conformity of the modified vehicle to any Federal or Canadian Motor Vehicle Safety Standards/Regulations that may be affected by the vehicle modification; it is the responsibility of the vehicle modifier to certify that the vehicle conforms to any standards affected by the vehicle modification. Additional information concerning United States Federal Motor Vehicle Safety Standards and Canada Motor Vehicle Safety Regulations is provided in the current 2008 Dodge Truck Body Builder's Guide CD-ROM.

The vehicles listed in the following table will conform to the safety standards noted above provided the following conditions are satisfied:

- The altered vehicle's unloaded vehicle weight does not exceed the value designated in the table corresponding to the vehicle's model and engine size. "Unloaded vehicle weight", as defined in the Title 49 Code of Federal Regulations, Part 571.3, means "the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo or occupants", and following alteration it still conforms to all applicable Federal Motor Vehicle Safety Standards (or Canadian Motor Vehicle Safety Standards).

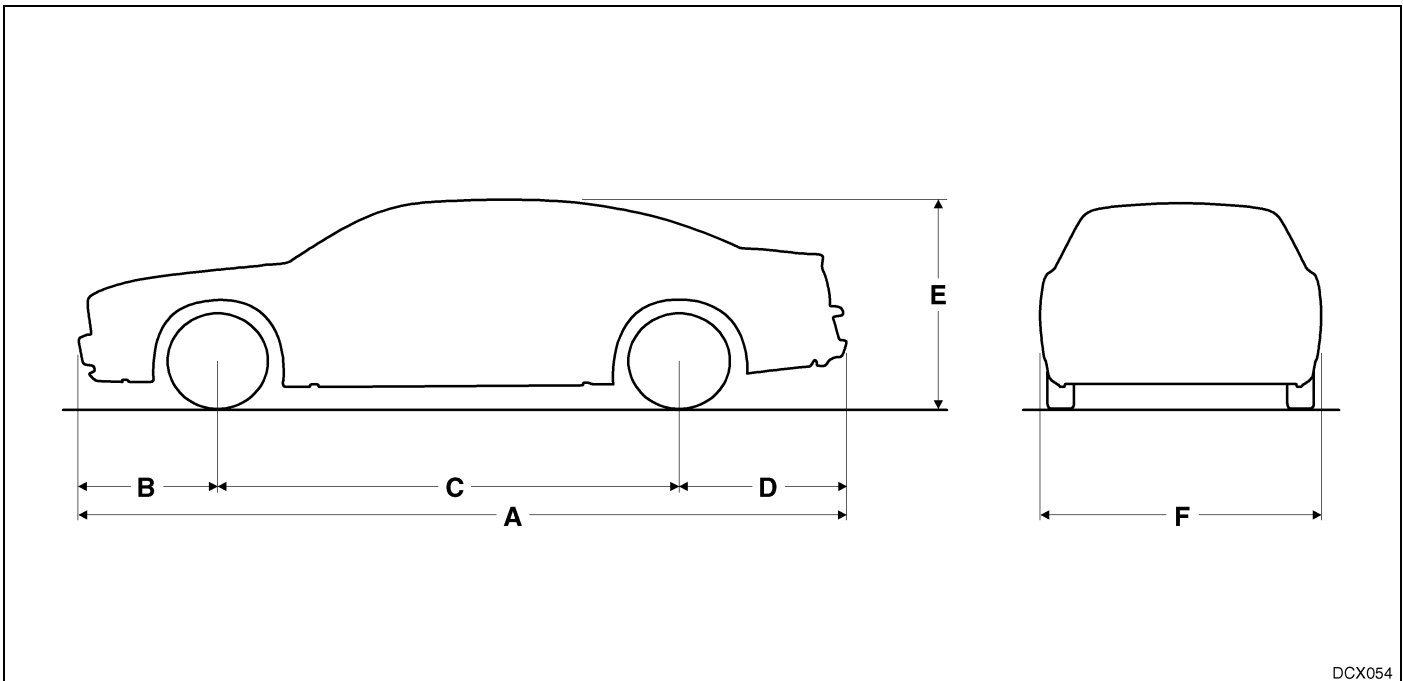
Engine Size (Liters)	Maximum Unloaded Vehicle Weight (Pounds) w/Max Options
Dodge Charger	
3.5	3966
5.7	4181
Dodge Magnum	
3.5	4044
5.7	4257

SAFETY DEVICES

The Dodge Charger and Magnum are factory equipped with many safety devices and features required by the Federal Motor Vehicle Safety Standards (FMVSS) or the Canada Motor Vehicles Safety Regulations. These features, which include for example brakes, lights, tires, seat belts, airbags, the key-in-ignition chime, the brake lights, etc., should not be modified or disabled.

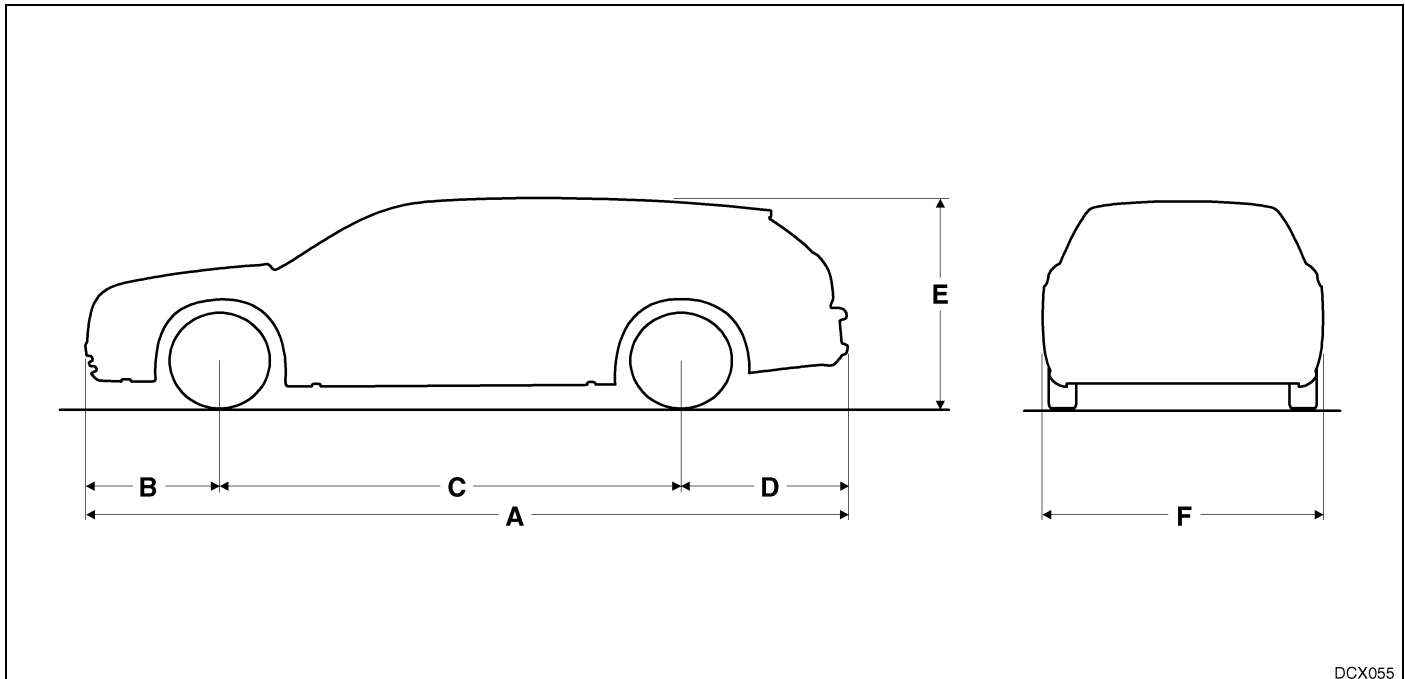
The United States Code (USC), Section 30122 Making Safety Devices and Elements Inoperative, states that "A manufacturer, distributor, dealer, or motor vehicle repair business may not knowingly make inoperative any part of a device or element of design installed on or in a motor vehicle or motor vehicle equipment in compliance with an applicable motor vehicle safety standard prescribed under this chapter unless the manufacturer, distributor, dealer, or repair business reasonably believes the vehicle or equipment will not be used (except for testing or a similar purpose during maintenance or repair) when the device or element is inoperative."

VEHICLE DIMENSIONS



The Dodge Charger vehicles have the following overall exterior dimensions:

- Length (A) = 5,082 mm (200.1 in.)
- Front overhang (B) = 924 mm (36.4 in.)
- Wheelbase (C) = 3,048 mm (120.0 in.)
- Rear overhang (D) = 1,109 mm (43.7 in.)
- Height (E) = 1,479 mm (58.2 in.)
- Width (F) = 1,891 mm (74.5 in.)



The Dodge Magnum vehicles have the following overall exterior dimensions:

- Length (A) = 5,021 mm (197.7 in.)
- Front overhang (B) = 886 mm (34.9 in.)
- Wheelbase (C) = 3,048 mm (120.0 in.)
- Rear overhang (D) = 1,087 mm (42.8 in.)
- Height (E) = 1,481 mm (58.3 in.)
- Width (F) = 1,881 mm (74.1 in.)

BUMPER HEIGHTS

Every time a vehicle is modified, measure the front and rear bumper heights to verify compliance with the FMVSS/CMVSS Part 581 - Bumper Standard, and with the Chrysler LLC specifications. Take bumper height measurements with the vehicle at curb weight.

Measure the bumper heights as follows:

NOTE: Take the measurements from the bottom of the bumper structural beam, not from the bumper fascia surface.

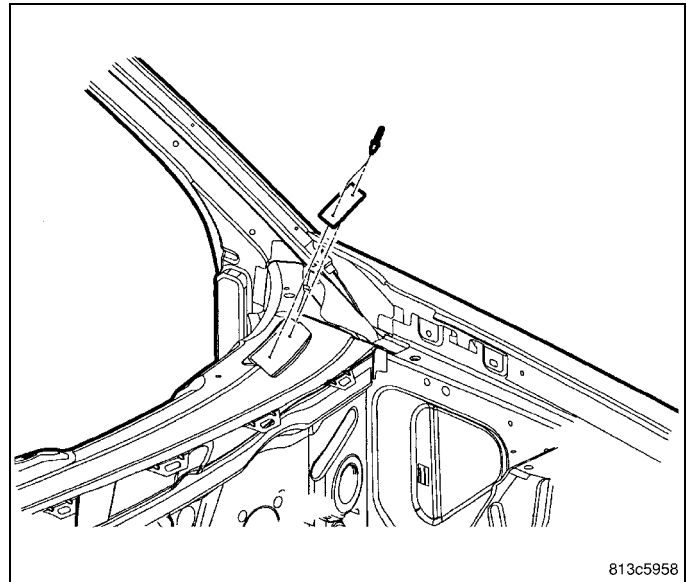
- Place the vehicle on a flat, level surface.
- Place the transmission gear selector lever in the PARK position.
- Exit the vehicle.
- At the center of the bumper, measure the vertical distance from the floor surface to the bottom of the front bumper structural beam.
- At the center of the bumper, measure the vertical distance from the floor surface to the bottom of the rear bumper structural beam.
- Record and compare the measurements with the specifications below.

Front bumper height	393.4 ±12.5 mm (15.5 ±0.5 inches)
Rear bumper height	367.6 ±12.5 mm (14.5 ±0.5 inches)

VEHICLE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER (VIN)

The VIN plate is attached to the body, and is visible through the lower left corner of the windshield. The VIN contains 17 characters that provide data concerning the vehicle. Refer to the decoding chart to determine the identification of a vehicle.



To protect the consumer from theft and possible fraud, the manufacturer is required to include a check digit at the ninth position of the VIN. The check digit is used by the manufacturer and government agencies to verify the authenticity of the vehicle and official documentation. The formula to use the check digit is not released to the general public.

VIN DECODING INFORMATION

POSITION	INTERPRETATION	CODE = DESCRIPTION
1	Country of Origin	2 = Manufactured by Chrysler Canada Inc.
3	Vehicle Type	B = Dodge (Sedan) D = Dodge (Wagon)
		3 = Passenger Car 4 = Multipurpose Passenger Vehicle Without Side Air Bags Sales Code (CGS) (Wagon) 8 = Multipurpose Passenger Vehicle With Side Air Bags Sales Code (CGS) (Wagon)

POSITION	INTERPRETATION	CODE = DESCRIPTION
4	Restraint System	<p>H = Restraint System Air bags Front Next Generation Multi-Stage Sales Code (CG1) With Side Air Bags Sales Code (CGS)</p> <p>J = Restraint System Air Bags Front Next Generation Multi-Stage Sales Code (CG1) Without Side Air Bags Sales Code (CGS)</p> <p>K = Restraint System Advanced Multi-Stage Front Air Bags Sales Code (CG3) With Side Air Bags Sales Code (CGS)</p> <p>L = Restraint System Advanced Multi-Stage Front Air Bags Sales Code (CG3) With Side Air Bags Sales Code (CGS)</p> <p>4 = Multipurpose Passenger Vehicle Without Side Air Bags Sales Code (CGS) (Wagon)</p> <p>8 = Multipurpose Passenger Vehicle With Side Air Bags Sales Code (CGS) (Wagon)</p>
	Gross Vehicle Weight Rating	<p>E = 1361-1814 kg (3001-4000 lbs) (Wagon)</p> <p>F = 1815-2267 kg (4001-5000 lbs) (Wagon)</p>
5	Vehicle Line	<p>A = Charger (RWD)</p> <p>V = Magnum (RWD)</p>
6	Series	4 - H High Line
7	Body Style	<p>3 = 4 Door Sedan Tall</p> <p>7 = Wagon Tall</p>
8	Engine	<p>G = 3.5L V-6 cyl. High Output 24 Valve MPI Gasoline Sales Code (EGG)</p> <p>H = 5.7L V-8 cyl. HEMI® Multiple Displacement Gasoline Sales Code (EZB)</p> <p>V = 3.5L V-6 cyl. 24 Valve High Output Gasoline, Sales Code (EZB) (Wagon)</p> <p>2 = 5.7L V-8 cyl. HEMI® Multiple Displacement Gasoline Sales Code (EZB) (Wagon)</p>
9	Check Digit	0 through 9 or X
10	Model Year	8 = 2008
11	Assembly Plant	H = Brampton Assembly
12 Through 17	Vehicle Build Sequence	Six Digit Number Assigned By Assembly Plant

VEHICLE EMISSION CONTROL INFORMATION (VECI) LABEL

All vehicles are equipped with a combined VECI label. This label is located in the engine compartment and contains the following information.

- Engine family and displacement
- Evaporative family
- Emission control system schematic
- Certification application
- Spark plug and gap

The label also contains an engine vacuum schematic. There are unique labels for vehicles built for sale in the state of California and the country of Canada. Canadian labels are written in both the English and French languages. These labels are permanently attached and cannot be removed without defacing the information and destroying the label.

VEHICLE CERTIFICATION LABEL

A vehicle certification label is attached to every Chrysler LLC vehicle. The label certifies that the vehicle conforms to all applicable Federal Motor Vehicle Standards. The label also lists:

- Month and year of vehicle manufacture
- Gross vehicle weight rating (GVWR). The gross front and rear axle weight ratings (GAWRs) are based on a minimum rim size and maximum cold tire inflation pressure.
- Vehicle identification number (VIN)
- Type of vehicle
- Type of rear wheels
- Bar code
- Month, day and hour (MDH) of final assembly
- Paint and trim codes
- Country of origin

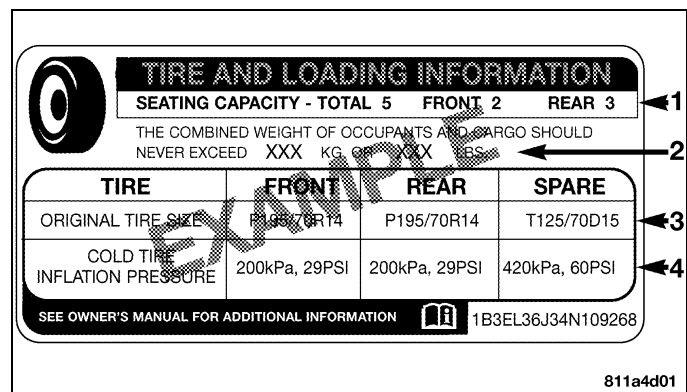


The label is located on the driver-side door shut-face.

TIRE AND LOADING INFORMATION LABEL

The tire and loading information label is located on the driver's side B-pillar and contains the following information:

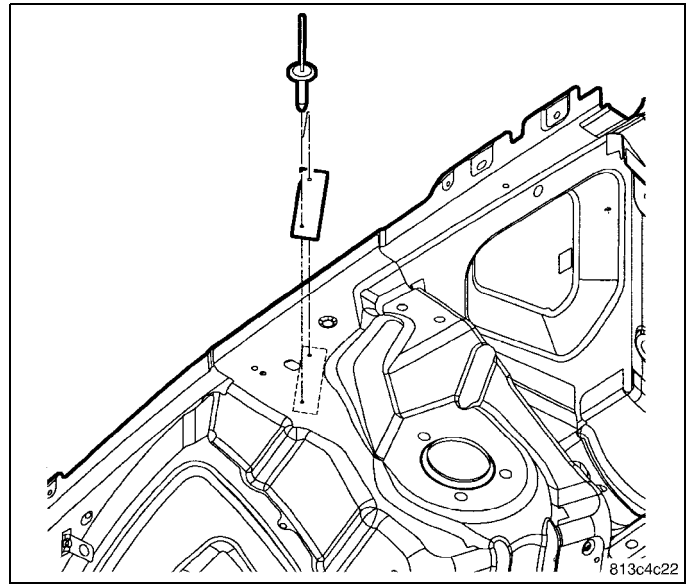
- Number of people that can be carried in the vehicle.
- The total weight the vehicle can carry.
- The tire size designed for the vehicle.
- The cold tire inflation pressures for the front, rear, and spare tires.



BODY CODE PLATE

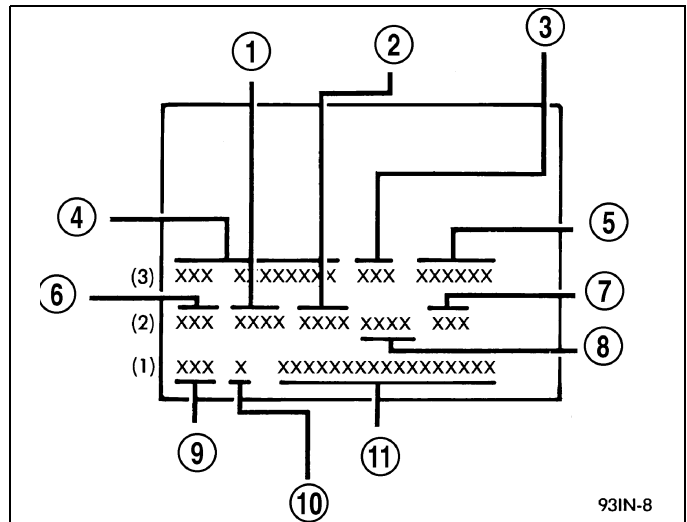
LOCATION

The body code plate is located in the engine compartment on the front right side shock tower mounting front panel.



DECODING

There are seven lines of information on the body code plate. Lines 4, 5, 6, and 7 are not used to define service information. Information reads from left to right, starting with line 3 in the center of the plate to line 1 at the bottom of the plate.



Body Code Plate Line 3

Line 3 contains the following information.

Digits 1, 2, and 3	Paint procedure
Digit 4	Open space
Digits 5, 6, and 7	Primary paint
Digits 8 and 9	Open space
Digits 10, 11, and 12	Secondary paint
Digits 13 and 14	Open space
Digits 15, 16, 17, and 18	Interior trim code

Digit 19	Open space
Digits 20, 21, and 22	Engine code <ul style="list-style-type: none"> • EGG = 3.5 L, V-6 Cylinder, 24 Valve, High Output, Gasoline, Aluminum Block (MPI) • EZB = 5.7 L, V-8 Cylinder, HEMI®, Multi-Displacement, Gasoline,
Digit 23	Open space

Body Code Plate Line 2

Line 2 contains the following information.

Digits 1 through 12	Vehicle order number
Digits 13, 14, and 15	Vinyl roof code
Digits 16 and 17	Open space
Digits 18 and 19	Vehicle shell line <ul style="list-style-type: none"> • LX
Digit 20	Car line <ul style="list-style-type: none"> • D = Dodge
Digit 21	Price class <ul style="list-style-type: none"> • H = High Line
Digits 22 and 23	Body type <ul style="list-style-type: none"> • 48 = Four Door Sedan Tall • 49 = Hatchback Tall

Body Code Plate Line 1

Line 1 contains the following information.

Digits 1, 2, and 3	Transmission codes <ul style="list-style-type: none"> • DGK = 5-Speed Automatic Transmission
Digit 4	Open space
Digit 5	Market code <ul style="list-style-type: none"> • C = Canada • M = Mexico • U = United States
Digit 6	Open space
Digits 7 through 23	Vehicle identification number (VIN)

Second Body Code Plate

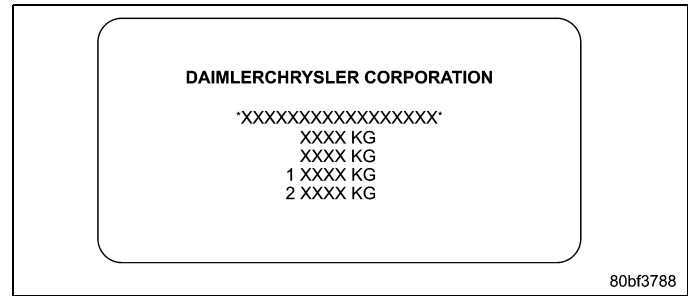
The last code shown on either plate is followed by END. When two plates are required, the last code space on the first plate indicates CTD.

When a second plate is required, the first four spaces of each line are not used due to overlap of the plates.

MANUFACTURER PLATE

The manufacturer plate is located in the engine compartment on the passenger side rear corner of the hood. The plate contains five lines of information:

- Vehicle identification number (VIN)
- Gross vehicle mass (GVM)
- Gross train mass (GTM)
- Gross front axle rating (GFAR)
- Gross rear axle rating (GRAR)



NEW VEHICLE STORAGE

If a vehicle is not immediately delivered to the customer, store the vehicle according to the following guidelines:

1. If possible, store the vehicle indoors, in a clean and dry place. If vehicles must be stored outside;
 - Avoid storage locations near obvious sources of industrial or environmental contamination (such as, trees, factories, steam or vapor vents, railroad tracks, etc.)
 - Maintain tight security to help prevent vandalism. Inspect the vehicle regularly to check for such damage.
 - If the vehicle must be parked on an incline, park it with the front end higher than the rear. This prevents hydrostatic lock caused by fuel draining into the engine.
 - Rinse the vehicle at least once a week. Wash away the snow more often since it can trap harmful contaminants. Dry all horizontal surfaces.
2. Remove the IOD fuse to prevent battery drain and possible damage.
3. Check the engine coolant and anti-freeze protection.

WARNING: THE BATTERY IN THIS VEHICLE HAS A VENT HOSE THAT SHOULD NOT BE DISCONNECTED AND SHOULD ONLY BE REPLACED WITH A BATTERY OF THE SAME TYPE (VENTED). FAILURE TO FOLLOW THIS WARNING CAN RESULT IN SERIOUS OR FATAL INJURY.

4. Check the vehicle battery at least once a month for proper charge (at least 12.4 volts). Charge the battery as necessary to help prevent freezing and deterioration. Always make sure that the battery vent tube is properly connected to the battery and to the floor pan.
5. Check the vehicle tires and inflate them to the maximum recommended levels. To avoid flat spotting, move the vehicle at least once a month so that a different portion of the tire tread contacts the ground.
6. Leave the parking brake in the OFF position.
7. Keep all windows closed, all doors locked, and all trim covers intact and in place.
8. Do not use chalk, crayon or any marker containing abrasives on painted, plated, or glass surfaces.
9. Use protective thin plastic film to avoid soiling seats when moving a vehicle.

ELECTRICAL

TABLE OF CONTENTS

	Page		Page
ELECTRICAL BASICS	1	POLICE RADIO SPEAKERS CONNECTION.	8
ALTERNATOR OUTPUT	1	SUPPLEMENTAL EQUIPMENT WIRING.	9
VEHICLE COMPONENTS ELECTRICAL LOADS	2	POLICE DOME LAMP	10
INSTALLING ADDITIONAL ELECTRICAL EQUIPMENT	3	SPOT LAMPS	11
AVAILABLE POWER/GROUND SOURCES	3	STEALTH MODE	12
AVAILABLE VEHICLE SIGNALS	6	EASY PATH WIRING GROMMET	12
		WIRING HARNESS ROUTING	12
		WIRING DIAGRAMS	16

ELECTRICAL BASICS

A vehicle uses electricity to make some of its systems and components work. The electricity in a vehicle is produced by the alternator, which can be compared with a water pump. As a water pump moves the water molecules, the alternator moves the electrons. As a water pump pushes a certain amount of water molecules, the alternator pushes a certain amount of electrons, and as a water pump pushes the water molecules with a certain pressure, the alternator pushes the electrons with a certain pressure. The amount of electrons pushed by the alternator is called amperage, and the "pressure" is called voltage. Electricity is distributed to the battery and to various components through a network of conductors called a wiring harness. The same way the water is pushed through pipes, is the same way the electrons are pushed through metallic conductors called wires. As the pipe diameter limits the number of water molecules that can travel at any given point, the size of the wire limits the amount of the electrons that can travel at any given point.

In 1827 Georg Simon Ohm published what is called today Ohm's law. According to Ohm's law, the relation between voltage (V), amperage (I), and the resistance (R) encountered by the electricity while traveling through conductors is $V = I \times R$. The rate at which a device converts the electricity to a different form of energy (visual, acoustical, mechanical, or hydraulic) is called power, and is measured in watts. An equation that expresses the relationship between volts (V), amperes (A), and watts (W), is $V \times A = W$. This equation is necessary when making calculations for making proper and safe electrical installation of new equipment and new wiring harnesses in a vehicle. For example to calculate the current needed by an amplifier rated at 120W, use the equation as follows: $12V \times A = 120W, \Rightarrow A = 120W/12V, \Rightarrow A = 10$.

ALTERNATOR OUTPUT

The amount of direct current produced by the alternator is controlled by the electronic voltage regulator (EVR) (field control) circuitry contained within the powertrain control module (PCM). The PCM uses the inlet air temperature sensor or ambient temperature sensor to control the charge system voltage. This temperature, along with data from monitored line voltage, is used by the PCM to vary the battery charging rate. The system voltage is higher at cold temperatures and is gradually reduced as the calculated battery temperature increases. The ambient temperature sensor is used to control the battery voltage based upon ambient temperature (approximation of battery temperature). The PCM maintains the optimal output of the generator by monitoring battery voltage and controlling it to a range of 13.5 - 14.7 volts based on battery temperature.

The amperage rating of the Dodge Charger and Magnum police vehicles alternator is 160A full output, and 135A max idle at SAE standard of 27°C (80°F). The alternator output capacity depends on the engine speed and the temperature in the engine compartment as follows:

NOTE: If the voltage drops under 12V while the engine idles, the PCM automatically increases the engine speed to 1200 RPM in order to increase the charging voltage.

Alternator Output

Condition	Engine Speed	Alternator Temperature	Output Current
Idle	624 RPM	93°C (200°F)	90A
PARK idle	1200 RPM	93°C (200°F)	120A
Run (max)	2500 RPM	93°C (200°F)	140A

VEHICLE COMPONENTS ELECTRICAL LOADS

The amount of electrical power available for police equipment can be calculated based on the vehicle components electrical load. The vehicle electrical load depends on the number of features powered at the same time. The following table shows typical vehicle loads based on average voltage of 13.5V.

Electrical Loads

Component	Condition	Load (Amps)
Base vehicle	Key ON/Engine OFF	5.1
Base vehicle	Engine idle	22.8
Radiator fan	Low	21.5
Radiator fan	High	31.6
Radiator fan	Both	48.3
Passenger compartment climate control (with A/C ON)	Low/Recirculated	8.1
Passenger compartment climate control (with A/C ON)	Low/Vent	8.2
Passenger compartment climate control (with A/C ON)	High/Recirculated	22.5
Passenger compartment climate control (with A/C ON)	High/Vent	21.8
Passenger compartment climate control (heating mode)	Low/Def Floor	7.5
Passenger compartment climate control (heating mode)	High/Def Floor	18.5
Rear window defrost	—	28.2
Windshield wiper	Low (average)	8.5
Windshield wiper	High (average)	10.8
Headlamps	Low beam	20.2
Headlamps	High beam	28.6
Parking lamps	Instrument panel dimmable lights OFF/Low	10.4
Parking lamps	Instrument panel dimmable lights ON/High	12
Turn signal lamps	Average	7.1
Stop lamps	—	9.6
Spot lamp	LH only	7.4
Spot lamps	Dual	14.8
Radio	Mid volume	5.5

INSTALLING ADDITIONAL ELECTRICAL EQUIPMENT

Prior to determining what equipment is to be installed into the police vehicle, assess the power demands of the equipment as well as the power available from the vehicle. To reduce the risk of running out of power, develop a power load strategy as follows:

- Add up the current requirements of all the pieces of equipment to be installed onto a police vehicle.
- Compare the total current requirements with the vehicle's current producing capability while taking into consideration the current needs of regular vehicle equipment such as A/C, headlamps, parking lamps, wipers, etc.

If the police equipment current requirements exceed what the vehicle is expected to provide, the battery begins to discharge in order to provide power to the equipment that cannot be provided by the generator. After some time, the vehicle shuts off as the battery voltage level drops under the minimum voltage required to keep the engine running.

To minimize electrical system overload, consider the current requirements of the equipment before it is purchased and installed. For example, the radios and the light bars built using the most recent technology use substantially less current than those built using technology that is 8-10 years old. Also the habits of the police officer while using the vehicle can make a difference in the current consumption as well. For example, turning the A/C (the largest non-police equipment current user) off while the empty vehicle is sitting at the scene of an accident with the lights flashing until the officer returns, makes more power available for lights and for other police equipment.

AVAILABLE POWER/GROUND SOURCES

WARNING: THE BATTERY IN THIS VEHICLE HAS A VENT HOSE THAT SHOULD NOT BE DISCONNECTED AND SHOULD ONLY BE REPLACED WITH A BATTERY OF THE SAME TYPE (VENTED). FAILURE TO FOLLOW THIS WARNING CAN RESULT IN SERIOUS OR FATAL INJURY.

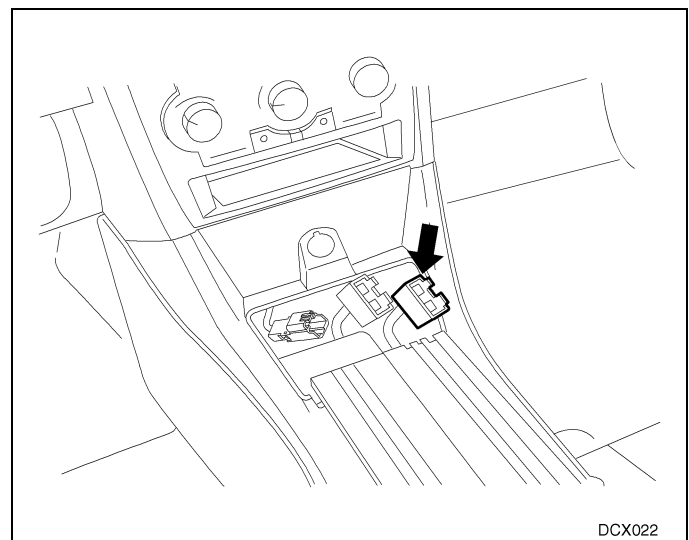
WARNING: ALWAYS DISCONNECT THE BATTERY CABLE BEFORE PERFORMING ANY ELECTRICAL WORK ON THE VEHICLE.

CAUTION: The battery cable pass-through tightening torque is critical for proper operation of the starting system. Additional connections (double stacking) at the battery cable pass-through studs are not permitted.

CAUTION: Use only the approved power and ground connection sources as described in this section. No splicing or tapping into the vehicle wiring harness is permitted.

POLICE ACCESSORIES CONNECTOR

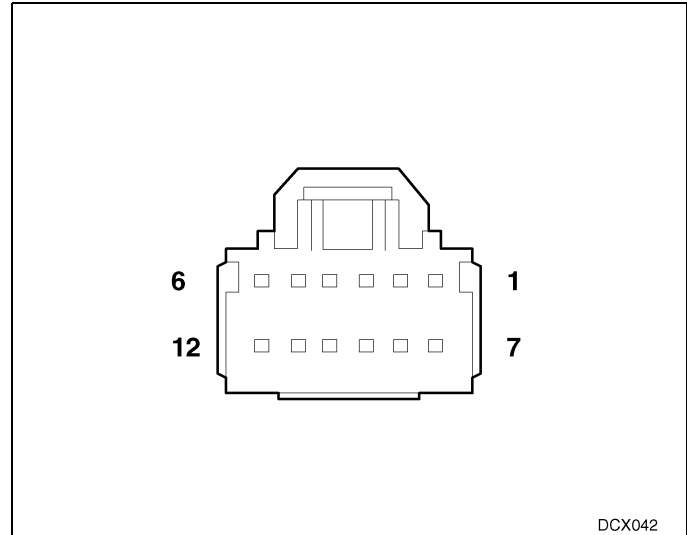
An auxiliary power source connector, located under the instrument panel center stack area, provides 6 power supply circuits with a total capacity of 120A from the police fuse/relay block and 6 pairs of twisted circuits for additional equipment. Access to the police accessories connector is gained by removing the plastic cover located in front of the police equipment mounting bracket (if equipped).



DCX022

NOTE: A police accessories mating connector is available in the MOPAR® kit P/N 05191127AB.

The police accessories connector is a 12-way (LT. GRAY) connector and provides connection to the following circuits:



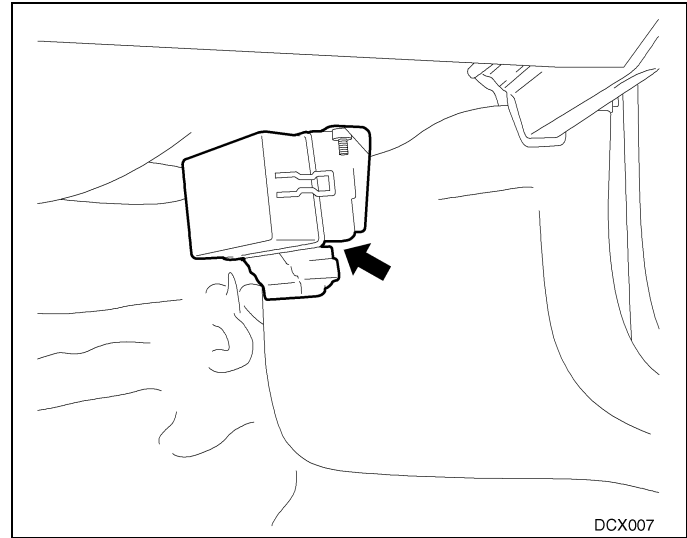
DCX042

Police Accessories Connector

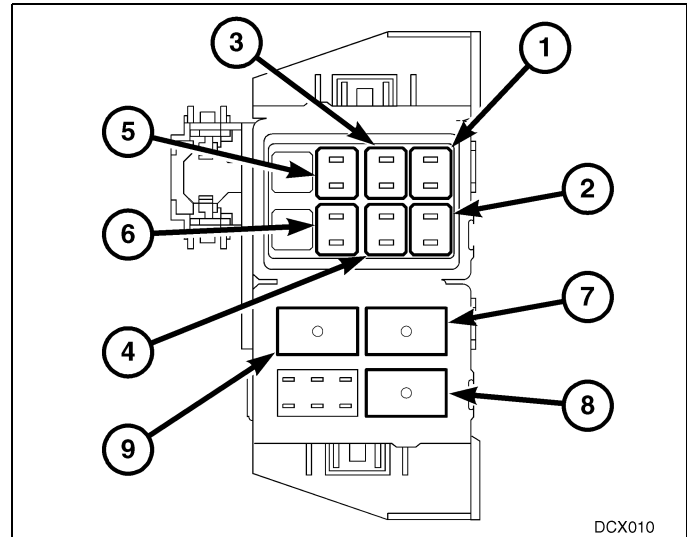
Cavity	Circuit	Function
1	A100 16RD/WT	Fused (20A) Battery (+) Voltage
2	A101 16VT/RD	Fused (20A) Battery (+) Voltage
3	A102 16WT/RD	Fused (20A) Battery (+) Voltage
4	F100 16PK/VT	Fused (20A) Accessory Voltage (with key in ON or ACC – Police 1 Relay Output)
5	F101 16VT/PK	Fused (20A) Accessory Voltage (with key in ON or ACC – Police 3 Relay Output)
6	F102 16WT/PK	Fused (20A) Accessory Voltage (with key in ON or ACC – Police 2 Relay Output)
7	Z950 18BK/TN	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section
8	Z951 18BK/WT	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section.
9	Z952 18BK/OR	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section.
10	Z953 18BK/LG	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section.
11	Z954 18BK/RD	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section.
12	Z955 18BK/DB	Supplemental equipment wiring circuit For complete information refer to the Supplemental Equipment Wiring in this section.

POLICE FUSE/RELAY BLOCK

The police accessories connector circuits are fed by 3 fuses and 3 fused relays located in the police fuse/relay block. The police fuse/relay block is located at the right hand side kick panel.



The police fuse/relay contains the following fuses and re-lays:



Police Fuse/Relay Block

Item	Component	Corresponding Police Accessories Connector Cavity
1	Fuse No. 1 (20A)	Cavity 1
2	Fuse No. 2 (20A)	Cavity 4 (through police 1 relay)
3	Fuse No. 3 (20A)	Cavity 2
4	Fuse No. 4 (20A)	Cavity 6 (through police 2 relay)
5	Fuse No. 5 (20A)	Cavity 3
6	Fuse No. 6 (20A)	Cavity 5 (through police 3 relay)
7	Police 1 Relay	Cavity 4
8	Police 2 Relay	Cavity 6
9	Police 3 Relay	Cavity 5

POWER DISTRIBUTION CENTER (PDC) STUD

If a power source is required in the trunk, a connection can be made at the PDC stud. No more than one eyelet with a properly sized and fuse protected circuit can be added to the PDC stud.

GROUND CONNECTIONS

The Dodge Charger and Magnum are equipped with numerous ground nuts and studs located in the engine compartment, passenger compartment and in the trunk cargo area. If grounding of additional equipment is required it is strongly recommended to use these ground points. Sheet metal drilling and use of sheet metal screws are not recommended as they are subject to corrosion and poor grounding.

When using the ground nuts or studs, no more than 2 ground eyelets per nut or stud can be stacked.

NOTE: For complete ground points location information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual.

Ground Locations

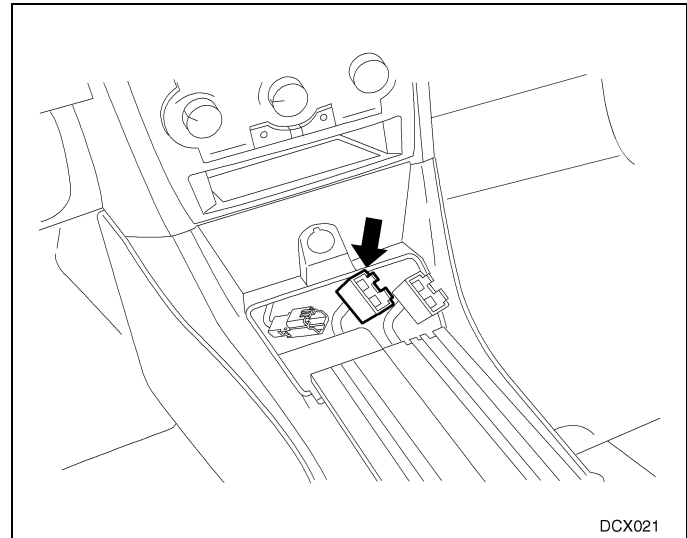
Ground	General Location
G100	Left front side of the engine compartment
G101	Right front side of the engine compartment
G102	Right side of the engine compartment
G104	Right side of the engine compartment
G105 (3.5L)	On engine near the harness take out for the Ignition Coil No. 5
G105 (5.7L)	Rear of the engine
G106 (3.5L)	Left side of the engine
G106 (5.7L)	Rear of the engine
G107 (3.5L)	Right side of the engine near the generator
G108	Left side of the engine
G109	On the right shock tower
G110	On engine harness
G111	Right front of engine
G200	Left side of the instrument panel near the harness take out for the ignition switch
G201	Passenger side of the instrument panel
G202	Driver side of the instrument panel near the take out for the instrument cluster
G300	On the floor pan under the driver seat
G301	On the floor pan under the passenger seat
G302	Right front side of the of the cargo pan
G303	Right rear side of the cargo pan
G304	Next to the decklid latch

AVAILABLE VEHICLE SIGNALS

CAUTION: Use only the approved power, ground, or signal sources as described in this manual. Splicing, cutting, or altering the vehicle harness circuits is not permitted.

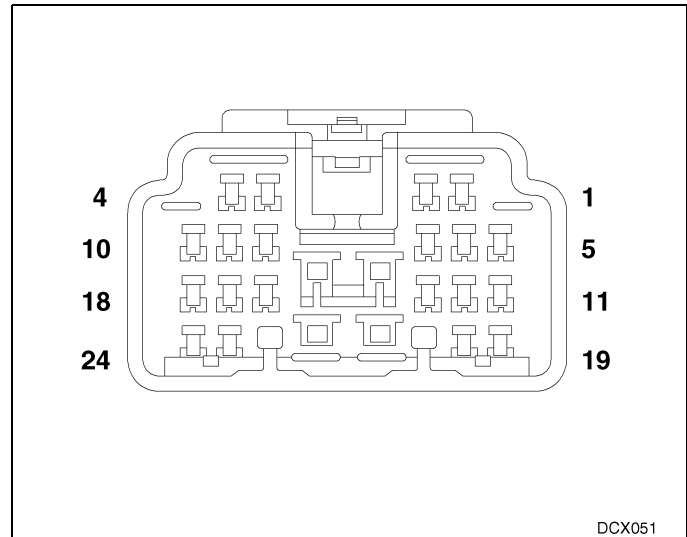
All police vehicles are equipped with a standard police/taxi interface module (PTIM), also referred to as police equipment interface module (PEIM), that serves as an interface between an upfitter installed module and various control modules of the vehicle. The PTIM retrieves information from the front control module (FCM), sentry key remote entry module (SKREM)/wireless control module (WCM), occupant restraint controller (ORC), cabin compartment node (CCN), and steering column module (SCM) via the controller area network (CAN) B data bus and makes them available for specific applications at the police/taxi interface connector.

The police/taxi interface connector is located under the instrument panel center stack area and can be accessed by removing the plastic cover located in front of the police equipment mounting bracket (if equipped).



NOTE: A police/taxi interface mating connector is available in the MOPAR® kit P/N 05191127AB.

The police/taxi interface connector is a 24-way (NATURAL) connector and is wired as follows:



Police/Taxi Interface Connector

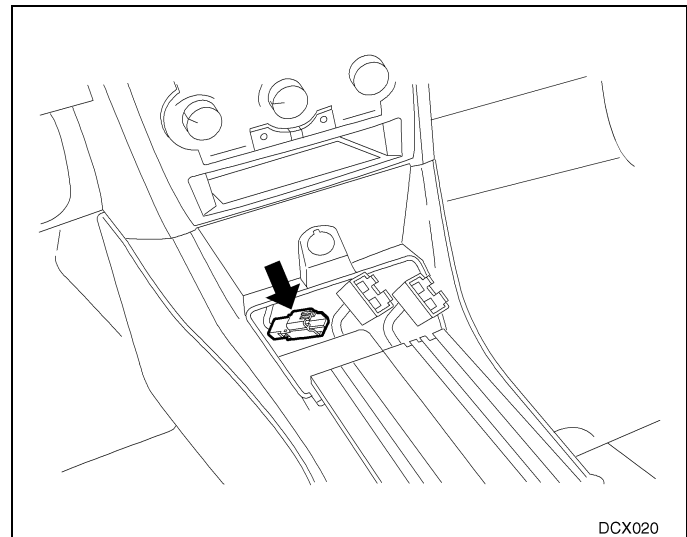
NOTE: A 47 kΩ resistor no longer needs to be installed in the input circuits from cavities 1, 2, 3, 20, and 21. Circuit locations have been revised from the 2006 and 2007 model years.

Cavity	Circuit	Function	Hardware Description
1	W500 20BR/OR	Front flashing lights signal	12V input
2	W501 20BR/VT	Rear flashing lights signal	12V input
3	W511 20BR/WT	Police radio input signal	12V input
4	W512 20BR/VT	Brake lamp switch sense	12V output
5	W513 20BR/GY	Horn switch sense	12V output
6	W514 20BR/YL	P/N switch sense	12V, 20mA voltage signal
7	W515 20BR/LB	Security/Panic alarm on signal	12V, 20mA voltage signal
8	W516 20BR/DB	Headlamp switch sense	12V, 20mA voltage signal
9	W517 20BR/LG	Side airbag status signal	12V, 20mA voltage signal

10	W518 20BR/DG	Front airbag status signal	12V, 20mA voltage signal
11	W530 20BR/DG	PTIM CAN B bus (+)	CAN B
12	W531 20BR/LG	PTIM CAN B bus (-)	CAN B
13	W521 20BR/WT	Cluster dimmer switch sense	12V, 20mA, 100Hz, pulse width modulated (PWM) signal
14	W522 20BR/VT	Engine running	Charging voltage output
15	W523 20BR/GY	Driver door ajar switch sense	12V, 20mA voltage signal
16	Z384 20BK	Ground	Common ground
17	—	—	—
18	—	—	—
19	W526 20BR/DB	Vehicle speed signal	12V, 20mA, 10Hz/mph
20	W536 20BR/YL	Horn mute signal	12V input
21	W537 20BR/VT	Security alarm mute signal	12V input
22	W538 20BR/OR	Fuel level status signal	12V, 20mA, 100Hz, pulse width modulated (PWM) signal
23	W539 20BR/DB	Driver seat belt switch sense	12V, 20mA voltage signal
24	W540 20BR/DG	Malfunction indicator signal	12V, 20mA voltage signal

POLICE RADIO SPEAKERS CONNECTION

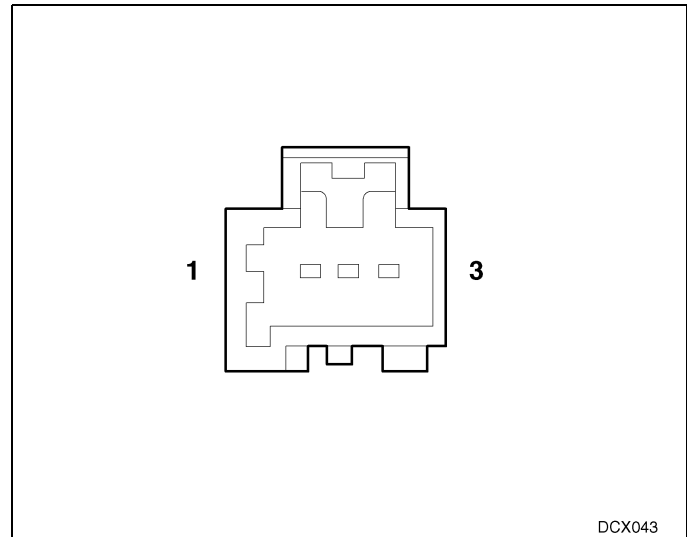
A connector that allows the use of the front vehicle speakers as output for the police radio is provided under the instrument panel center stack area. Access to the police radio speakers connector is gained by removing the plastic cover located in front of the police equipment mounting bracket (if equipped).



DCX020

NOTE: A police radio mating connector is available in the MOPAR® kit P/N 05191127AB.

The connector is a 3-way (LT. GRAY) male connector, and is wired as follows:



Police Radio Connector

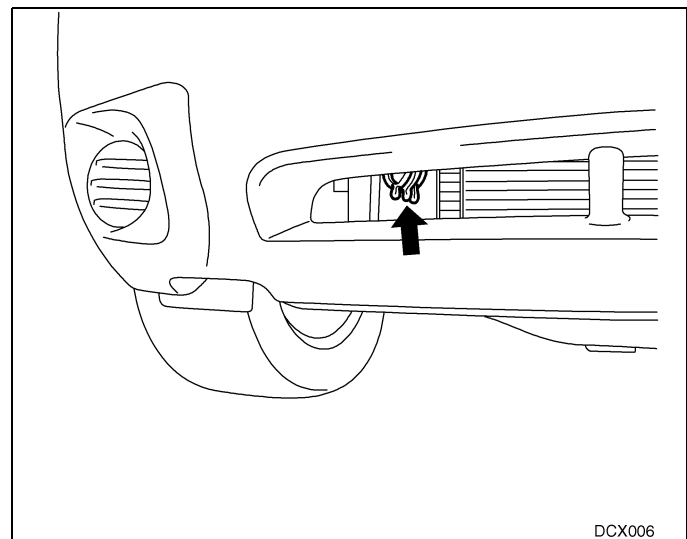
Cavity	Circuit	Function
1	X703 20DG/OR	Left Audio Output
2	X704 20DG/YL	Right Audio Output
3	X795 20DG	Common Audio Output

In order for the radio mute to function, send a 1 volt max. root mean square (RMS) analog signal to mimic hands free module (HFM) messages via the police/taxi interface connector.

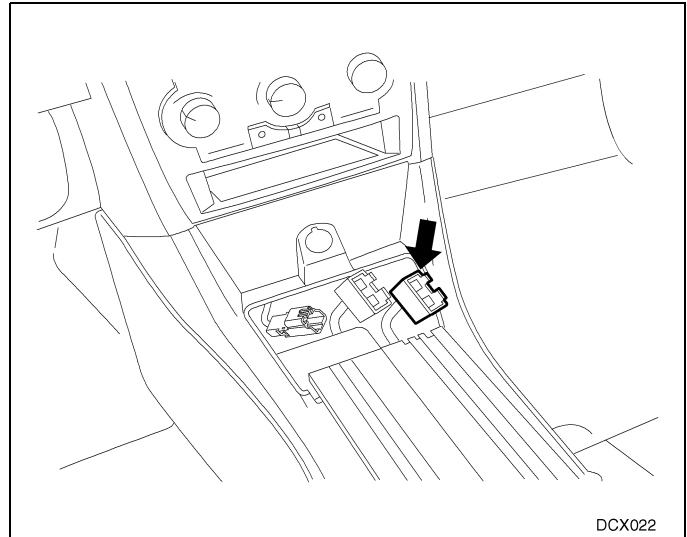
SUPPLEMENTAL EQUIPMENT WIRING

Supplemental equipment wiring consisting of 3 pairs of 18 gauge wires for speakers, sirens, or other controls is provided standard on each police vehicle. The wires are part of the headlamp and dash and body wiring harnesses and run from the 12-way (police accessories) connector and end at the front of the vehicle.

The front end of the supplemental equipment wiring is located at the front bumper beam and has an additional 24 inches of wire reserve that are blunt cut terminated.



The 12-way (police accessories) connector is located at the bottom of center stack of the instrument panel. Access to the police accessories connector is gained by removing the plastic cover located in front of the police equipment mounting bracket (if equipped). Refer to page 4 in this section for more information on the 12-way police accessories connector.



DCX022

The supplemental equipment wires are twisted in pairs as follows:

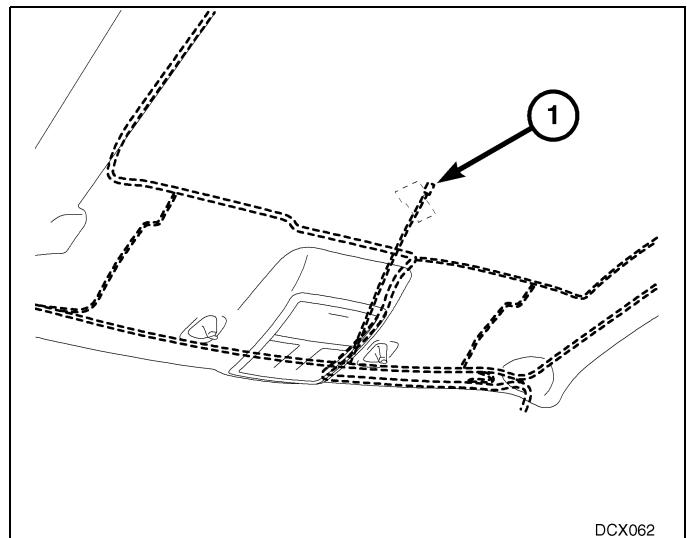
Supplemental Equipment Circuits

Pair	Paired Circuits
1	Z950 18BK/TN — Z951 18BK/WT
2	Z952 18BK/OR — Z953 18BK/LG
3	Z954 18BK/RD — Z955 18BK/DB

For complete police accessories connector view and pinout, refer to the Police Accessories Connector (page 4) in this section.

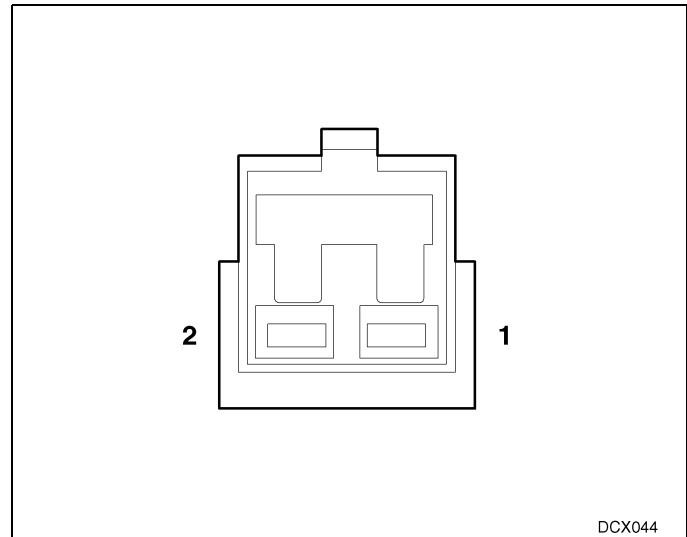
POLICE DOME LAMP

Each police vehicle comes equipped with wires for a police dome lamp whether the vehicle comes equipped with a police dome lamp or not. The police dome lamp connector (1) is available above the front center section of the headliner.



DCX062

The police dome lamp is a 2-way (BLACK) connector, and is wired as follows:



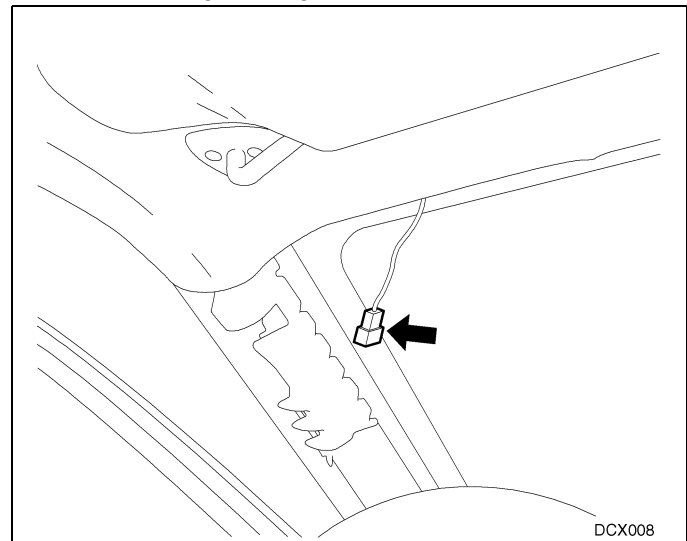
Police Dome Lamp Connector

Cavity	Circuit	Function
1	A932 18RD	Fused B(+)
2	Z909 18BK/LG	Ground

SPOT LAMPS

Each police vehicle comes equipped with wires for spot lamps, and it may be ordered as left only, or both sides. If the vehicle is not equipped with spot lamps, the spot lamp wires and connectors are available above the front end corners of the headliner. To access the spot lamp connectors, remove the A-pillar trim panel, reach above the front end corner of the headliner and pull the spot lamp wire. Some resistance may be encountered while pulling the wire as it is spot glued to the headliner.

The left side spot lamp wire is shown, the right side spot lamp wire is similar.



The spot lamp circuits are fused in the power distribution center as follows:

Spot Lamp Connectors

Spot Lamp	Circuit	Power Distribution Center Fuse	Fuse Rating
Left	A931 18RD/WT	Fuse 10	15A
Right	A930 18RD/LG	Fuse 7	15A

STEALTH MODE

STEALTH MODE SWITCH

In stealth mode all of the police vehicle interior lights including the instrument cluster and the radio indicators are turned off. The only exception is the transmission gear position indicator which dims to the lowest legal limit.

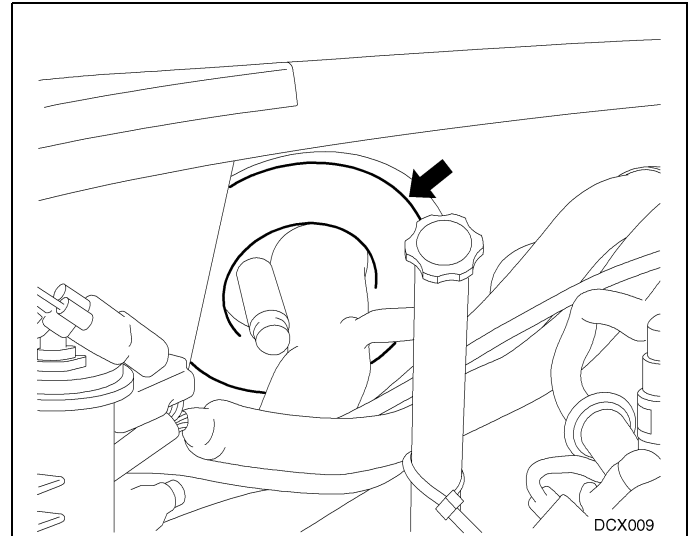
NOTE: The police dome lamp is individually powered, has its own ON/OFF switch, and is not turned off automatically when the rest of the interior lighting is switched to stealth mode.

Stealth mode is activated by turning the dimmer control thumb wheel on the headlamp switch. The system also provides an output signal through the police interface module to allow stealth mode and dimming of the interior lamps used on aftermarket police equipment controls.

EASY PATH WIRING GROMMET

An additional wiring grommet is provided between the engine and passenger compartments. The easy path wiring grommet is located in the bulkhead on the right side of the engine compartment and is standard on all police vehicles.

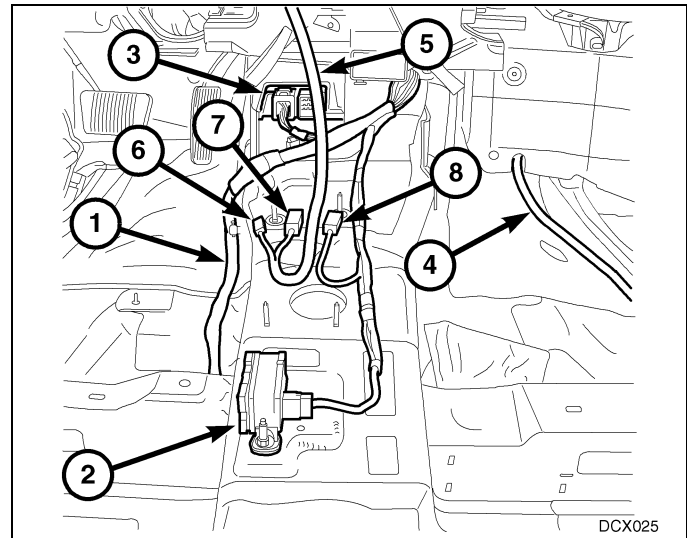
The end of the grommet rubber tube must be cut off to pass wiring from the engine compartment into the passenger compartment. To avoid water ingress into the passenger compartment, a drip loop must be provided on the engine compartment side of the added wiring. In addition, use RTV silicone or electrical tape to reseal the grommet rubber tube and wiring.



WIRING HARNESS ROUTING

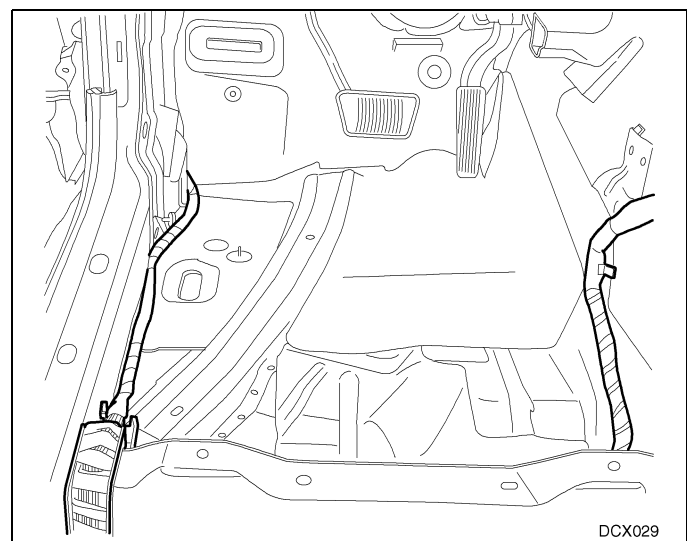
Always consider the routing of the vehicle wiring harness when planning to install additional equipment. Take care to avoid damaging the wiring when drilling and/or installing fasteners. No wiring harness relocation is permitted.

The following graphics represent the location of the wiring harnesses and the safety related components inside the vehicle. Make sure to avoid damaging the wiring or the safety related components when installing additional equipment.

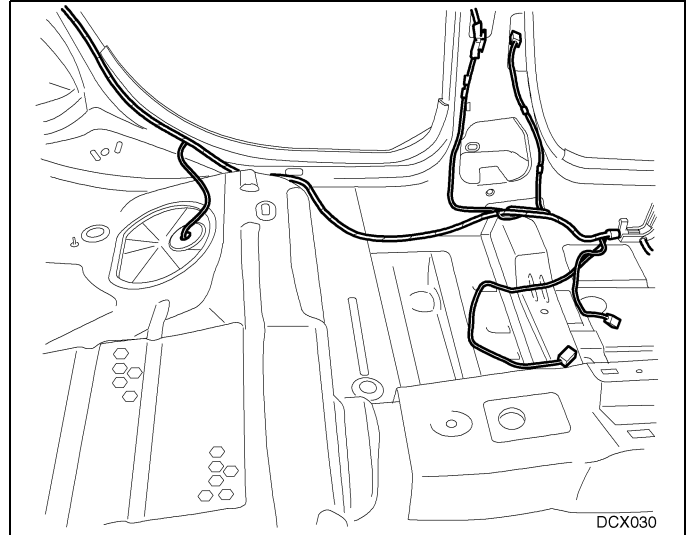
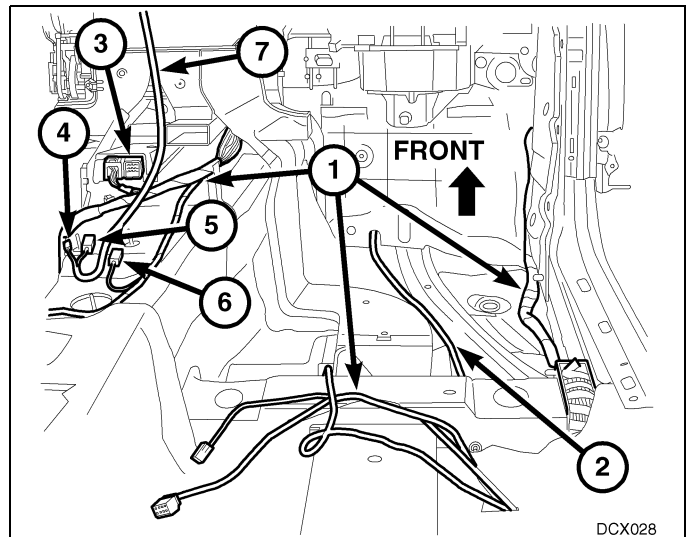


BODY HARNESS – CENTER TUNNEL AREA

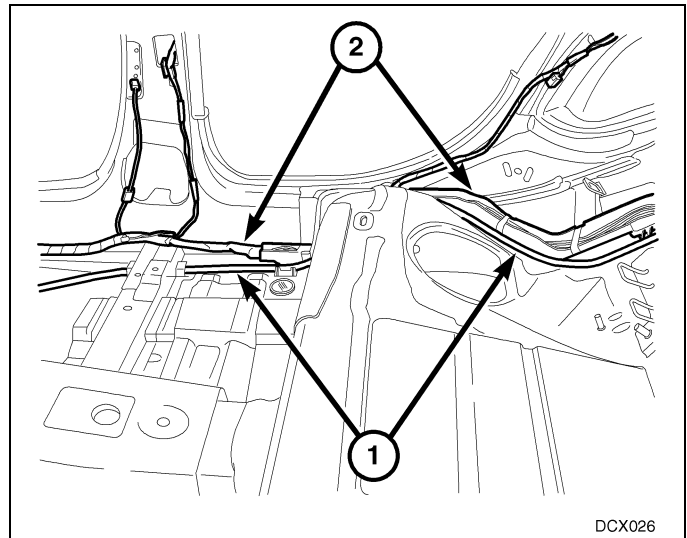
1. Body harness
2. Dynamics electronic stability program (ESP) sensor
3. Occupant restraint controller (ORC) module
4. Battery B+ cable
5. I/P harness
6. Police radio connector (LT. GRAY)
7. Police/taxi interface connector (NATURAL)
8. Police accessories connector (LT. GRAY)



BODY HARNESS – LEFT FRONT FLOOR AREA

**BODY HARNESS – LEFT REAR FLOOR AREA****BODY HARNESS – RIGHT FRONT FLOOR AREA**

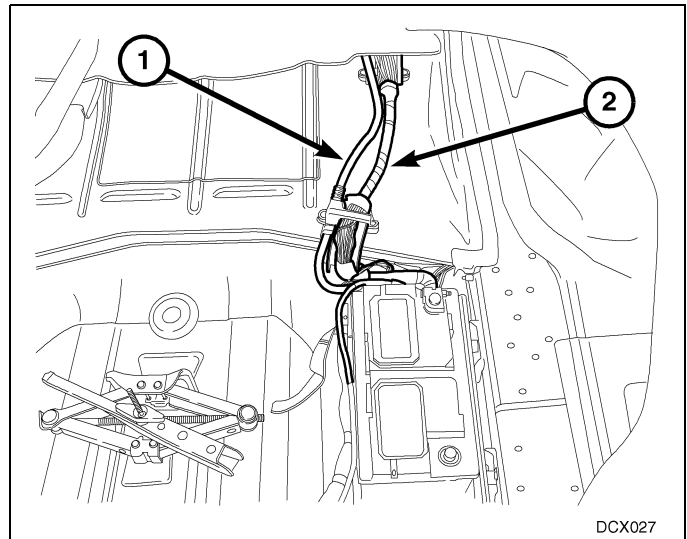
1. Body harness
2. Battery B+ cable
3. Occupant restraint controller (ORC) module
4. Police radio connector (LT. GRAY)
5. Police/taxi interface connector (NATURAL)
6. Police accessories connector (LT. GRAY)
7. I/P harness



DCX026

BODY HARNESS – RIGHT REAR FLOOR AREA

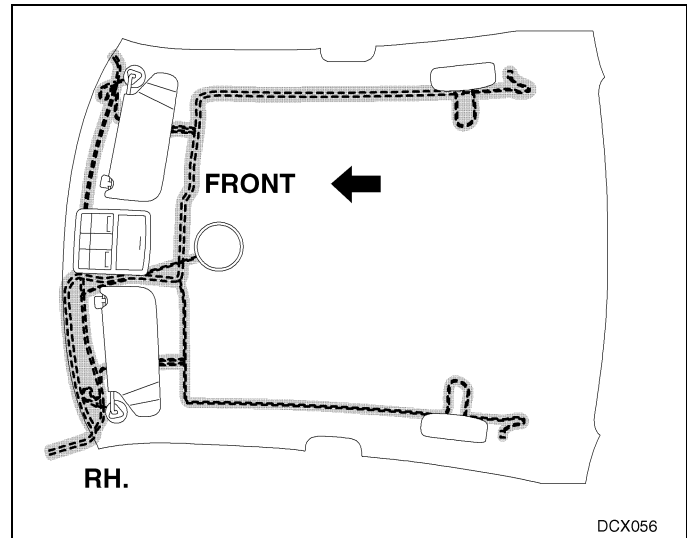
1. Battery B+ cable
2. Body harness



DCX027

BODY HARNESS – TRUNK/CARGO AREA

1. Battery B+ cable
2. Body harness

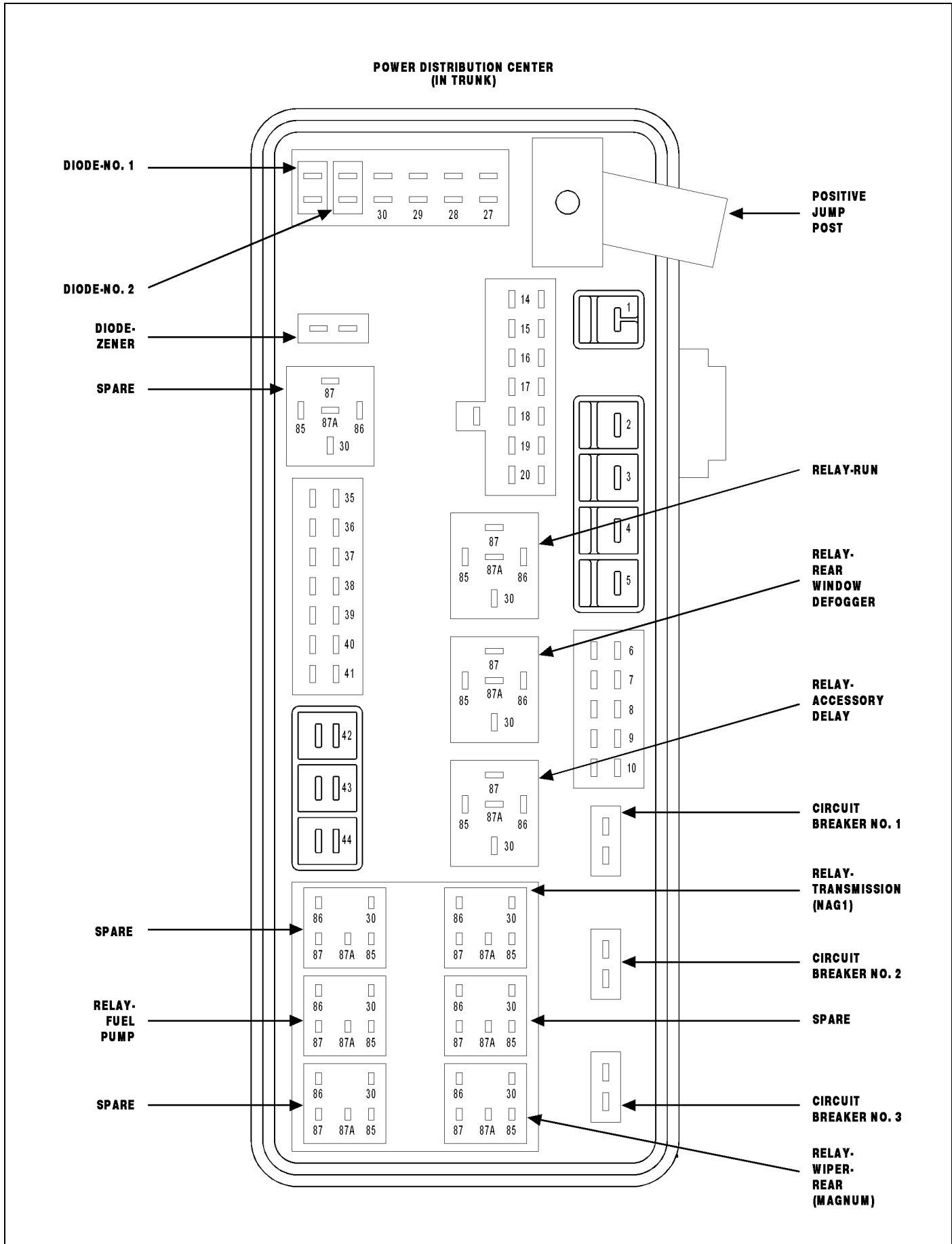
**HEADLINER HARNESS**

WIRING DIAGRAMS

The following pages represent the police vehicle specific wiring diagrams information. For complete wiring diagrams information, refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual.

To order Service Manuals, Diagnostic Procedure Manuals, or Owner's Manuals, you may use the phone numbers or the web sites listed below:

- In the United States — call toll free at 1-800-890-4038
- In Canada — call toll free at 1-800-387-1143



**FUSES
(PDC)**

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	60A	A114 10RD/BK	B(+) (I.O.D.)
2	40A	A22 12RD/WT	FUSED B(+)
3	20A	A932 16RD ▼▼	FUSED B(+)
		A932 18RD ▼	FUSED B(+)
4	40A	A22 12RD/WT	FUSED B(+)
5	30A	A33 14RD/YL	FUSED B(+)
6	20A	A109 16RD/DG	FUSED B(+)
7	15A	A930 18RD/LG	FUSED B(+)
8	15A	A106 20LB/RD	FUSED B(+)
9	20A	A305 16RD/LB	FUSED B(+)
10	15A	A931 18RD/WT	FUSED B(+)
14	10A	A23 20RD/YL	FUSED B(+) (I.O.D.)
15	20A	A914 16RD ◆◆◆◆	FUSED B(+)
16	20A	A105 16DB/RD ▼▼	FUSED B(+)
17	20A	A917 18RD/TN	FUSED B(+)
18	20A	A205 18RD/OR	FUSED B(+)
19	10A	A103 20PK/DB	FUSED B(+)
20	20A	A909 20RD/TN ▼▼	FUSED B(+)
		A909 16RD/TN ▼▼	FUSED B(+)
27	10A	F201 20PK/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
28	10A	F214 20PK/LG	FUSED RUN RELAY OUTPUT
29	5A	F202 20PK/GY	FUSED IGNITION SWITCH OUTPUT (RUN-START)
30	10A	A913 20RD/GY	FUSED B(+)
35	5A	F880 20PK/DG	FUSED ACCESSORY DELAY RELAY OUTPUT
36	20A	A300 16GY/LG	FUSED B(+) (I.O.D.)
37	15A	F942 18PK/BK	FUSED TRANSMISSION RELAY OUTPUT
38	5A	A117 20RD/DG	FUSED B(+) (I.O.D.)
		A117 20RD/DG ▼	FUSED B(+) (I.O.D.)
39	10A	C16 20DB/GY	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
40	5A	F23 20RD/OR	FUSED IGNITION SWITCH OUTPUT (RUN-START)
41	10A	F500 20DG/PK	FUSED RUN RELAY OUTPUT
42	30A	C7 12DB	FUSED RUN RELAY OUTPUT
43	30A	C15 12DB/WT	FUSED REAR WINDOW DEFOGGER RELAY OUTPUT
44	20A	X13 16DG/GY	FUSED B(+) (I.O.D.)

▼ CHARGER
▼▼ MAGNUM
◆◆◆◆ TRAILER TOW

**CIRCUIT BREAKERS
(PDC)**

CB	AMPS	FUSED CIRCUIT	FUNCTION
1	25A	A110 16OR/RD	FUSED B(+)
2	25A	A916 14RD	FUSED B(+)
3	25A	F881 14PK	FUSED ACCESSORY DELAY RELAY OUTPUT

**RELAYS
(PDC)**

**RELAY-
ACCESSORY
DELAY**

CAVITY	CIRCUIT	FUNCTION
30	A1 6RD	B(+)
85	P307 20LG/GY	ACCESSORY DELAY RELAY CONTROL
86	A1 6RD	B(+)
87	F981 12RD/BR	ACCESSORY DELAY RELAY OUTPUT
87A	-	-

**RELAY-
FUEL
PUMP**

CAVITY	CIRCUIT	FUNCTION
30	A109 16RD/DG	FUSED B(+)
85	F20 20PK/WT	FUSED IGNITION SWITCH OUTPUT (RUN-START)
86	K31 20BR	FUEL PUMP RELAY CONTROL
87	N1 16DB/OR	FUEL PUMP RELAY OUTPUT
87A	-	-

**RELAY-
REAR
WINDOW
DEFOGGER**

CAVITY	CIRCUIT	FUNCTION
30	A1 6RD	B(+)
85	C115 20DB	REAR WINDOW DEFOGGER RELAY CONTROL
86	A1 6RD	B(+)
87	C515 12RD/GY	REAR WINDOW DEFOGGER RELAY OUTPUT
87A	-	-

**RELAYS
(PDC)
(CONTINUED)**

RELAY-RUN

CAVITY	CIRCUIT	FUNCTION
30	A1 6RD	B(+)
85	F921 20PK/W T	RUN RELAY CONTROL
86	A1 6RD	B(+)
87	F922 12RD/LB	RUN RELAY OUTPUT
87A	-	-

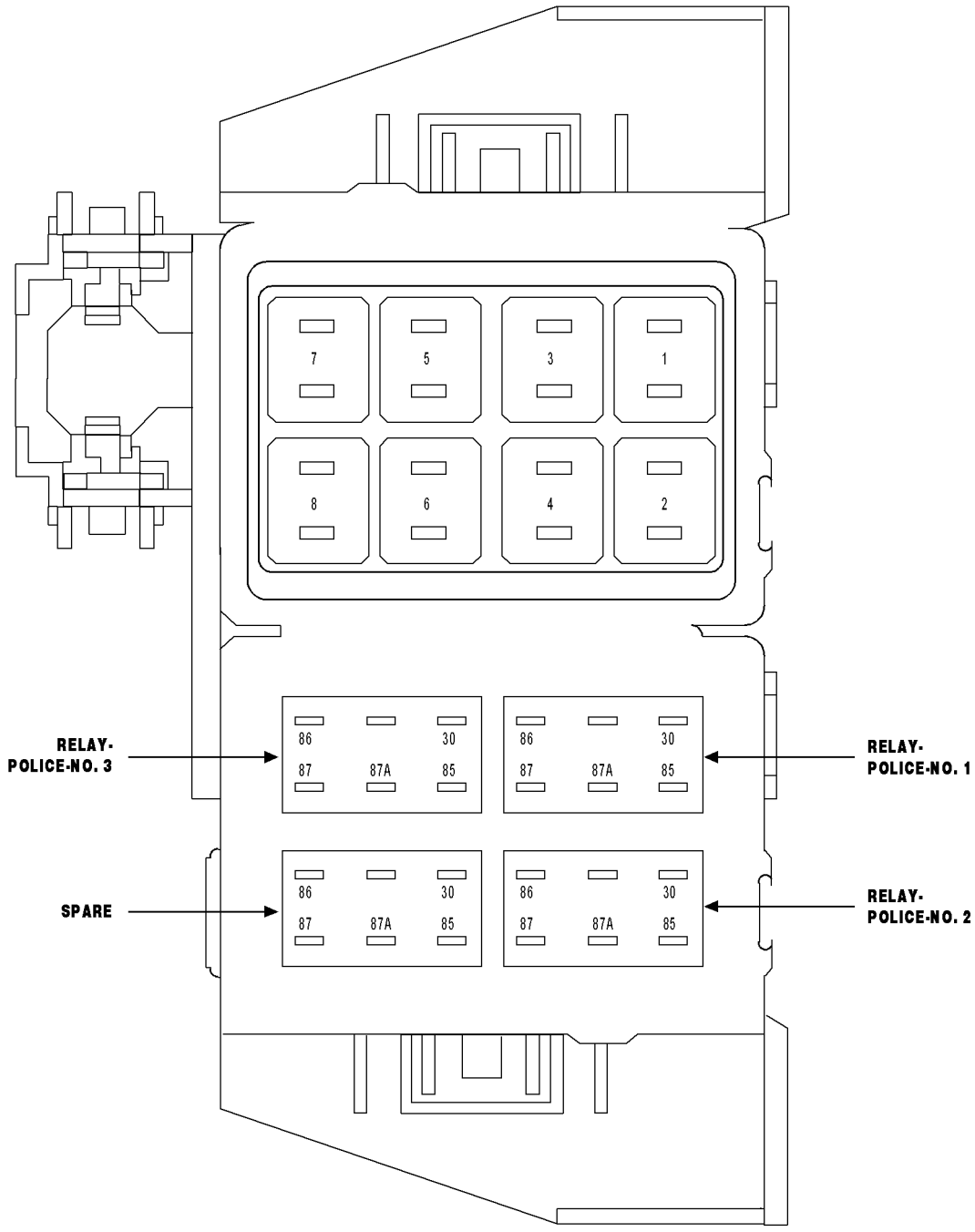
**RELAY-
TRANSMISSION
(NAG1)**

CAVITY	CIRCUIT	FUNCTION
30	A1 6RD	B(+)
85	F941 20PK/BR	IGNITION SWITCH OUTPUT (RUN-START)
86	Z914 20BK/GY	GROUND
87	F2 18PK/YL	TRANSMISSION RELAY OUTPUT
87A	-	-

**RELAY-
WIPER-
REAR
(LX49)**

CAVITY	CIRCUIT	FUNCTION
30	W13 16BR/LG	REAR WIPER MOTOR CONTROL
85	W12 20BR/OR	REAR WIPER RELAY CONTROL
86	A909 20RD/TN	FUSED B(+)
87	A909 16RD/TN	FUSED B(+)
87A	Z914 20BK/GY	GROUND

FUSE/ RELAY BLOCK



**FUSES
(F/RB)**

FUSE NO.	AMPS	FUSED CIRCUIT	FUNCTION
1	20A	A100 16RD/W T	FUSED B(+)
2	20A	F3 16YL/RD	FUSED B(+)
3	20A	A101 16VT/RD	FUSED B(+)
4	20A	F4 16RD/YL	FUSED B(+)
5	20A	A102 16WT/RD	FUSED B(+)
6	20A	F5 16WT/YL	FUSED B(+)
7	-	-	-
8	-	-	-

**RELAYS
(F/RB)****RELAY-
POLICE-NO. 1**

CAVITY	CIRCUIT	FUNCTION
30	F3 16YL/RD	FUSED B(+)
85	Z911 20BK/W T	GROUND
86	F880 20PK/DG	FUSED ACCESSORY DELAY RELAY OUTPUT
87	F100 16PK/W T	POLICE NO. 1 RELAY OUTPUT
87A	-	-

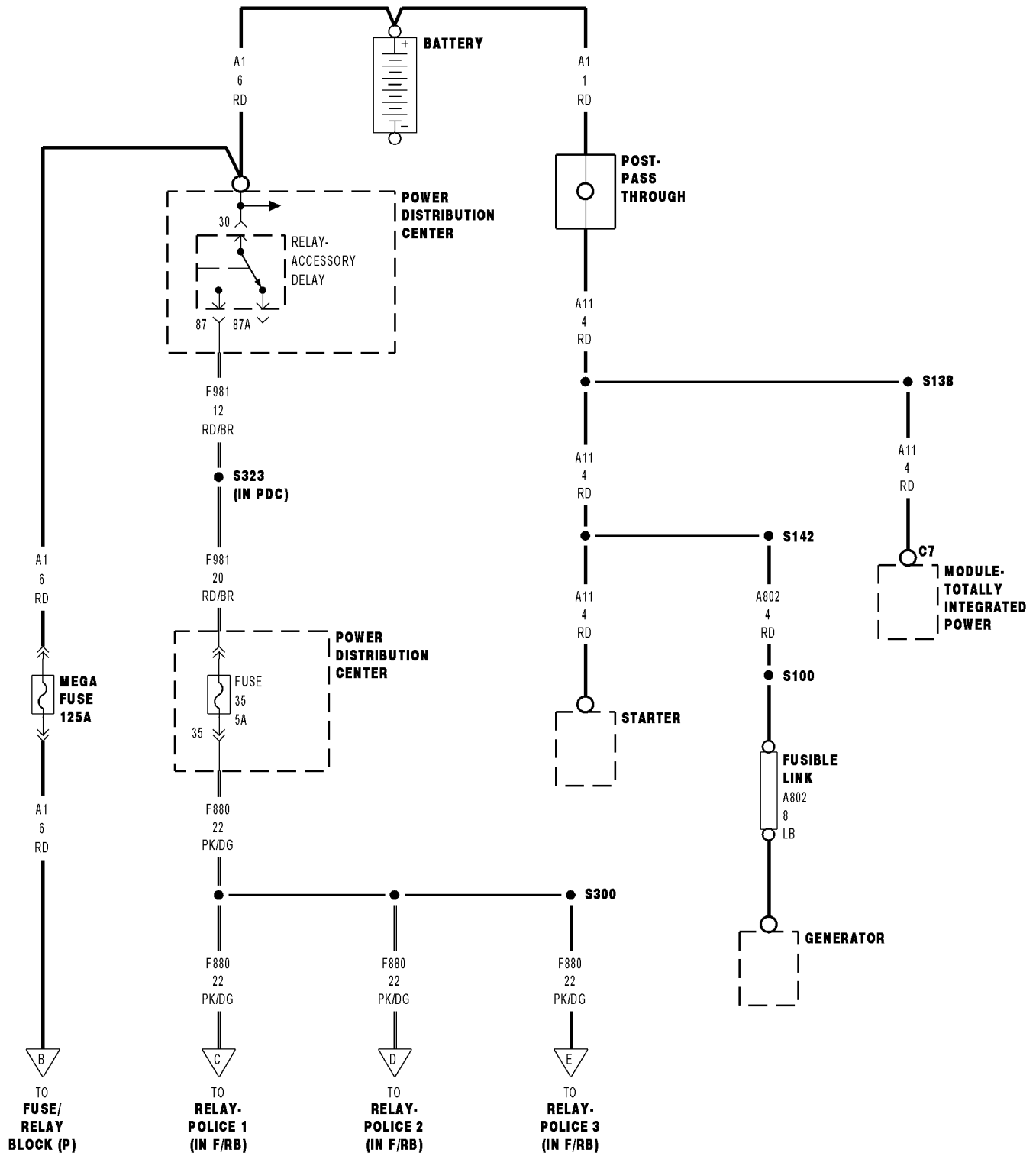
**RELAY-
POLICE-NO. 2**

CAVITY	CIRCUIT	FUNCTION
30	F5 16WT/YL	FUSED B(+)
85	Z911 20BK/W T	GROUND
86	F880 20PK/DG	FUSED ACCESSORY DELAY RELAY OUTPUT
87	F102 16WT/PK	POLICE NO. 2 RELAY OUTPUT
87A	-	-

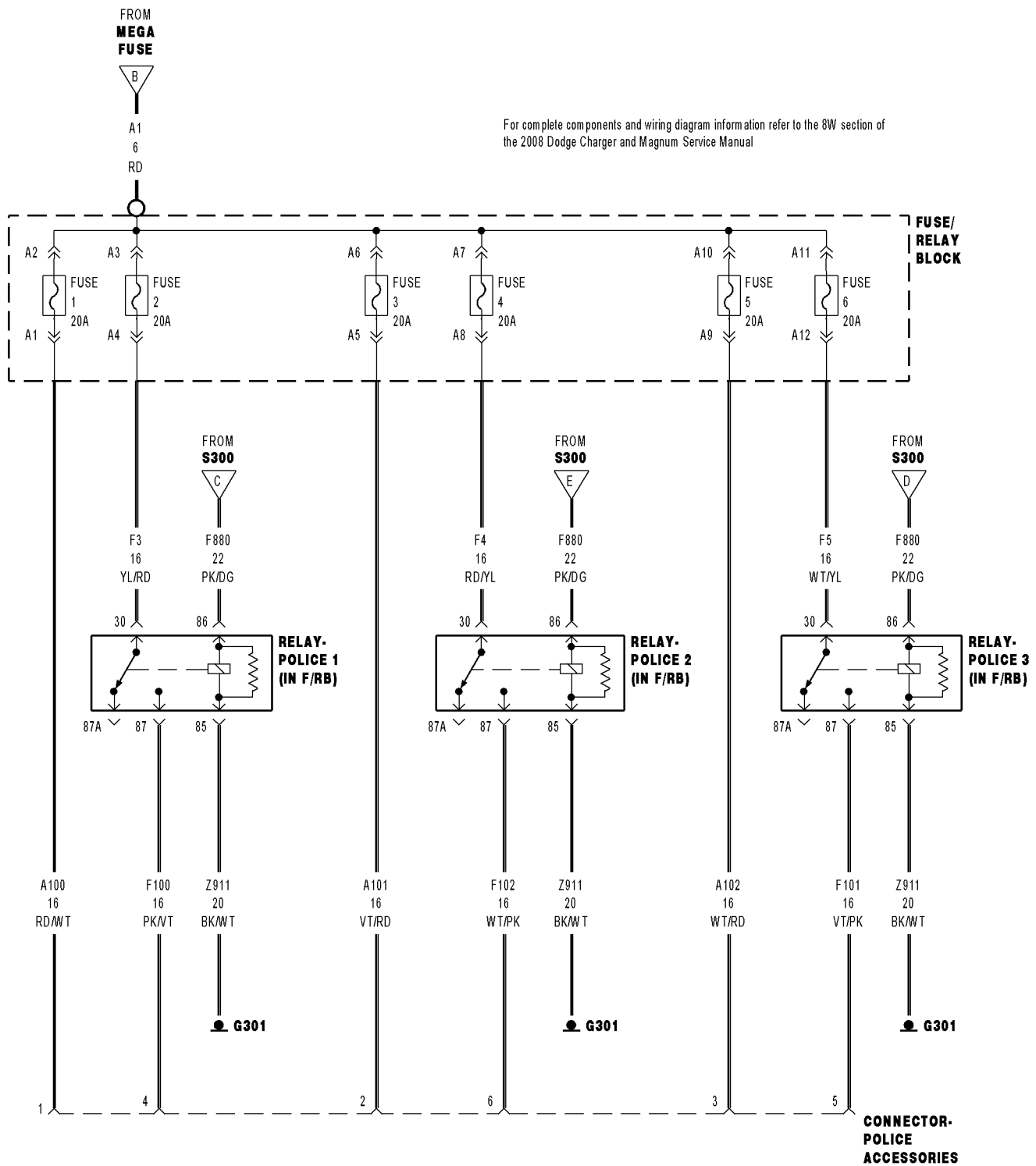
**RELAY-
POLICE-NO. 3**

CAVITY	CIRCUIT	FUNCTION
30	F4 16RD/YL	FUSED B(+)
85	Z911 20BK/W T	GROUND
86	F880 20PK/DG	FUSED ACCESSORY DELAY RELAY OUTPUT
87	F101 16VT/PK	POLICE NO. 3 RELAY OUTPUT
87A	-	-

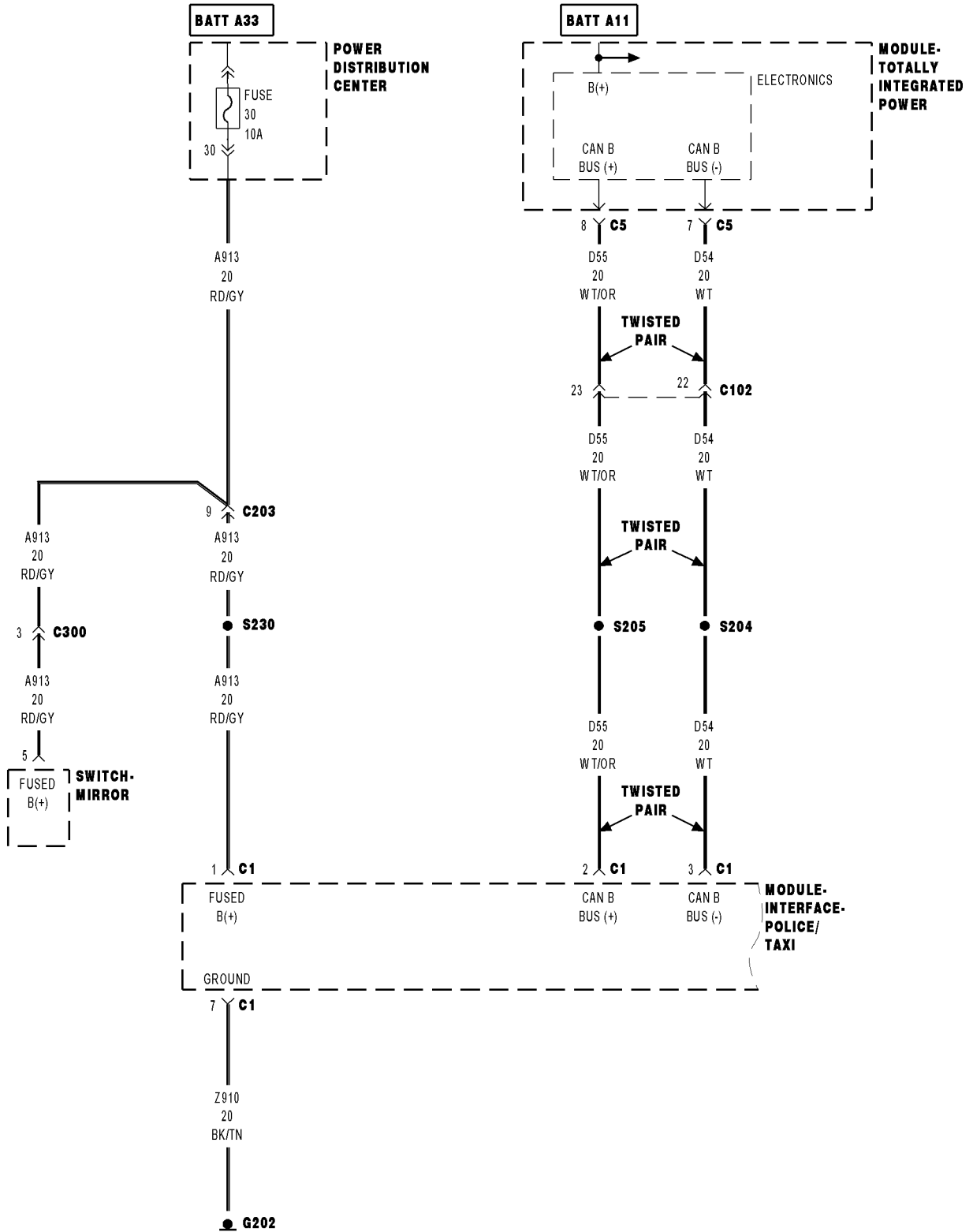
For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual



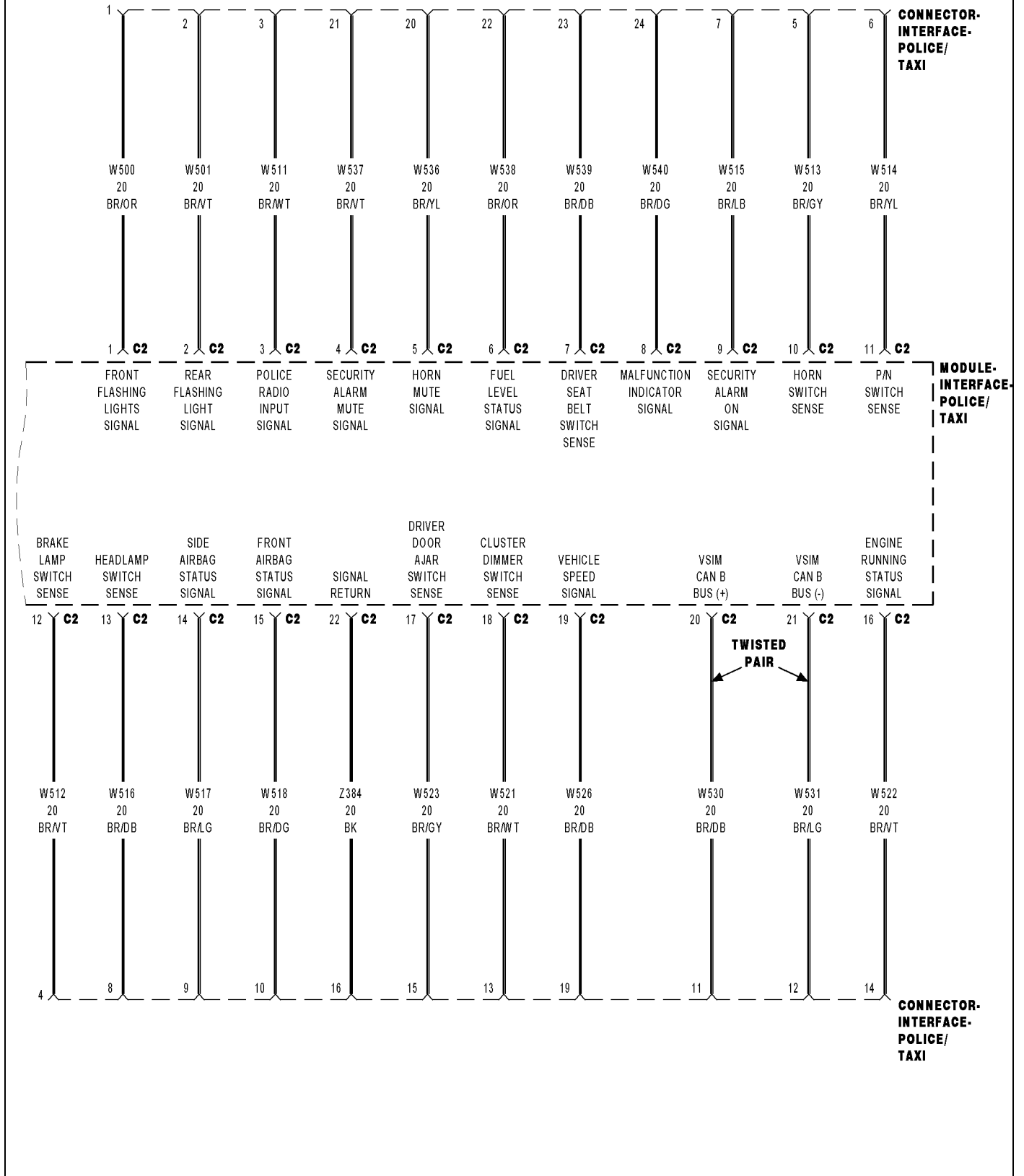
For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual



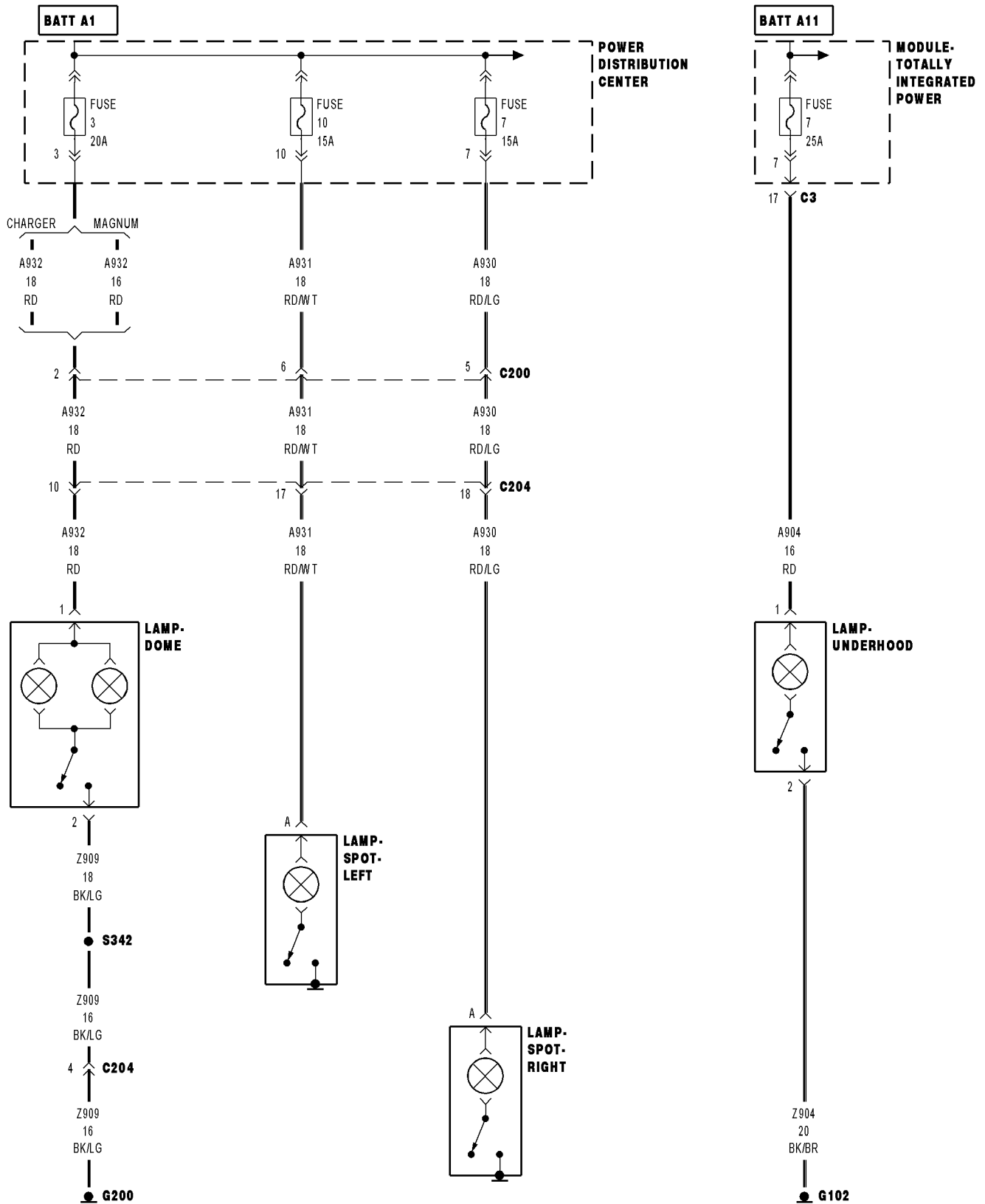
For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual



For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual

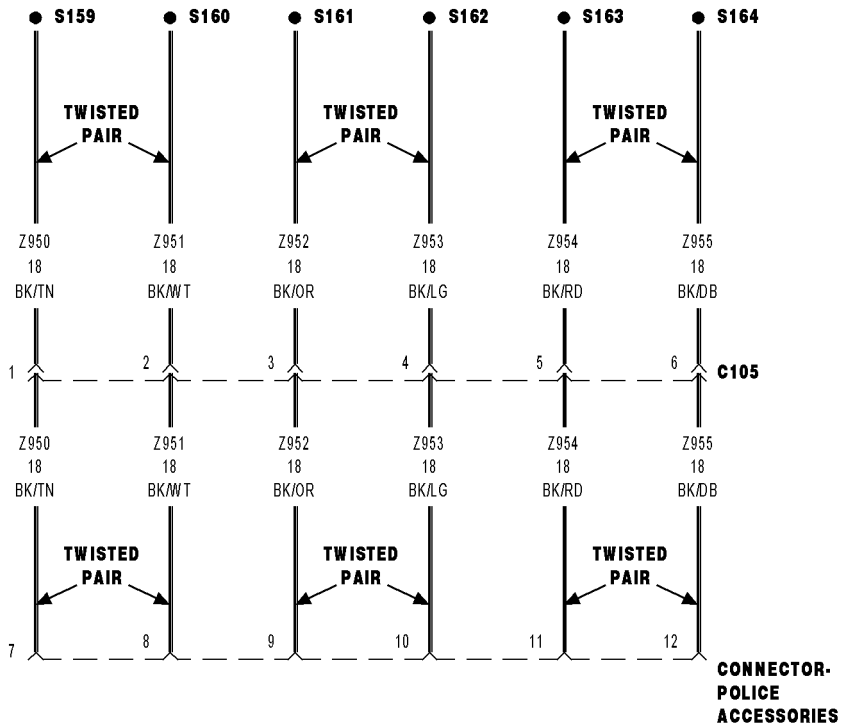
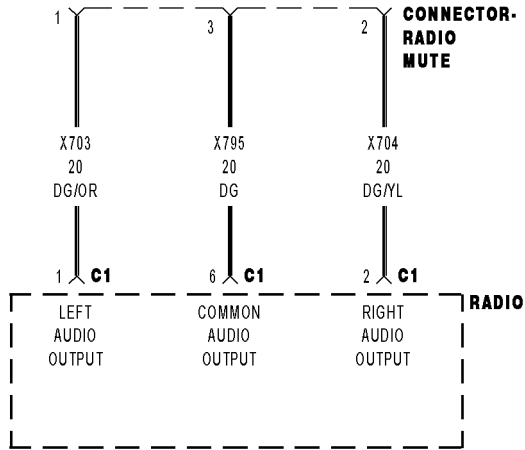


For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual



POLICE VEHICLE INTERIOR/EXTERIOR LIGHTING SCHEMATICS

For complete components and wiring diagram information refer to the 8W section of the 2008 Dodge Charger and Magnum Service Manual



POLICE RADIO AND SUPPLEMENTAL EQUIPMENT WIRING SCHEMATICS

AIRBAGS

TABLE OF CONTENTS

	Page		Page
OCCUPANT RESTRAINT SYSTEM.	1	FRONT GRILL AREA.	12
PASSENGER COMPARTMENT.	7		

OCCUPANT RESTRAINT SYSTEM

WARNING

INSTALLING A CONVENTIONAL PRISONER PARTITION IS NOT RECOMMENDED ON VEHICLES EQUIPPED WITH LEFT AND RIGHT SIDE CURTAIN AIRBAGS, AS POLICE CAGES MAY INTERFERE WITH THE DEPLOYING AIRBAG. THE AREA WHERE THE SIDE CURTAIN AIRBAG IS LOCATED SHOULD REMAIN FREE FROM ANY OBSTRUCTIONS.

IF YOUR VEHICLE IS EQUIPPED WITH LEFT AND RIGHT SIDE CURTAIN AIRBAGS, CARE MUST BE TAKEN WHEN INSTALLING ANY TYPE OF ROOF EQUIPMENT. DRILLING AND INSTALLATION OF FASTENERS OR OTHER EQUIPMENT THAT MAY INTERFERE WITH THE SIDE CURTAIN AIRBAGS AND AIRBAG WIRING HARNESS IS NOT PERMITTED. MAKE SURE THAT NO EQUIPMENT OR FASTENERS ARE LOCATED IN THE AIRBAG DEPLOYMENT ZONE.

DO NOT PLACE OBJECTS OR MOUNT EQUIPMENT IN FRONT OF THE AIRBAG MODULE COVER OR IN FRONT OF THE SEAT AREAS THAT MAY COME IN CONTACT WITH A DEPLOYING AIRBAG. FAILURE TO FOLLOW THIS INSTRUCTION COULD RESULT IN PERSONAL INJURY.

DO NOT PLACE DASH, TUNNEL OR CONSOLE-MOUNTED EQUIPMENT OUTSIDE OF THE SPECIFIED ZONE. FAILURE TO FOLLOW THIS INSTRUCTION COULD RESULT IN PERSONAL INJURY.

IF EQUIPPED WITH OCCUPANT CLASSIFICATION SYSTEM (OCS), THE SEAT WEIGHT SENSOR IS A SENSITIVE, CALIBRATED UNIT AND MUST BE HANDLED CAREFULLY. DO NOT DROP OR HANDLE ROUGHLY. IF DROPPED OR DAMAGED, REPLACE WITH ANOTHER SENSOR. FAILURE TO DO SO MAY RESULT IN OCCUPANT INJURY OR DEATH.

IF EQUIPPED WITH OCS, THE FRONT PASSENGER SEAT MUST BE HANDLED CAREFULLY AS WELL. WHEN REMOVING THE SEAT, BE CAREFUL WHEN SETTING ON FLOOR NOT TO DROP. IF DROPPED, THE SENSOR MAY BE INOPERATIVE, COULD RESULT IN OCCUPANT INJURY, OR POSSIBLY DEATH.

IF EQUIPPED WITH OCS, WHEN THE PASSENGER FRONT SEAT IS ON THE FLOOR, NO ONE SHOULD SIT IN THE FRONT PASSENGER SEAT. THIS UNEVEN FORCE MAY DAMAGE THE SENSING ABILITY OF THE SEAT WEIGHT SENSORS. IF SAT ON AND DAMAGED, THE SENSOR MAY BE INOPERATIVE, COULD RESULT IN OCCUPANT INJURY, OR POSSIBLY DEATH.

ANY WEIGHT ADDED BY PLACING OR INSTALLING EQUIPMENT ON THE PASSENGER FRONT SEAT MAY TURN THE PASSENGER AIRBAG DISABLE (PAD) INDICATOR LIGHT ON. FOR A COMPLETE OPERATION DESCRIPTION OF THE OCS SYSTEM, REFER TO THE VEHICLE OWNER'S MANUAL.

OCCUPANT RESTRAINT SYSTEM COMPONENTS

The occupant restraint system is comprised of the following components:

- Left front impact sensor
- Right front impact sensor
- Driver airbag
- Driver side airbag
- Passenger airbag
- Passenger side airbag

- Occupant restraint controller (ORC) module
- Driver seat belt tensioner
- Passenger seat belt tensioner
- Left side impact sensors
- Right side impact sensors
- Left side curtain airbag
- Right side curtain airbag
- Driver seat track position sensor
- Passenger seat track position sensor

AIRBAG DEPLOYMENT ZONES

There are 3 zones to be aware of:

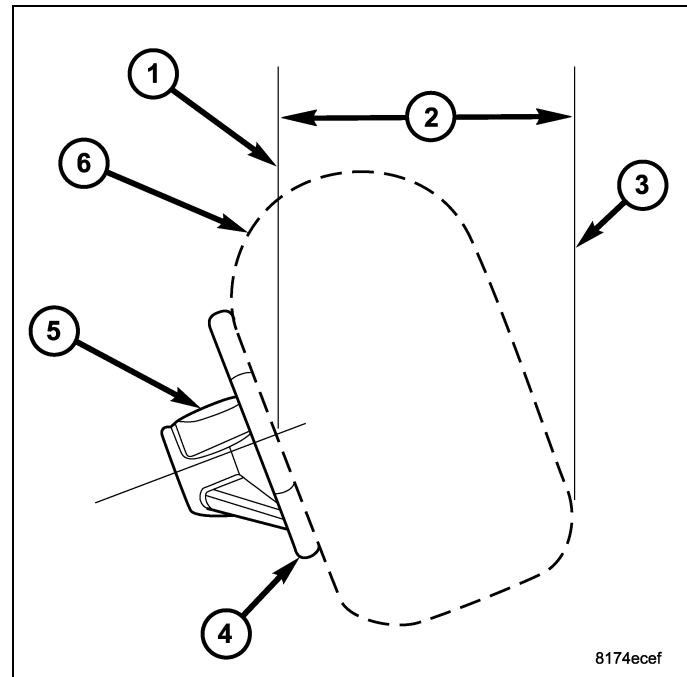
- Driver airbag deployment zone
- Passenger airbag deployment zone
- Side curtain airbags deployment zone
- Side airbags deployment zone

DRIVER AIRBAG DEPLOYMENT ZONE

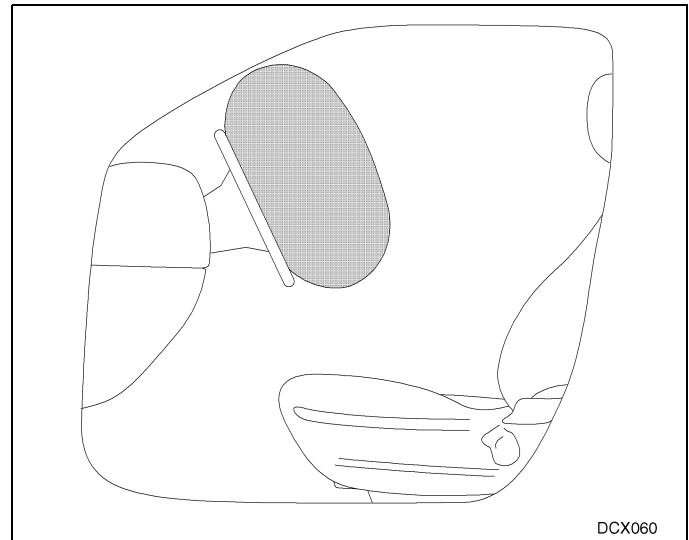
The driver airbag deployment zone is identified as follows:

1. Vertical plane passing through the center of the steering wheel
2. 475 mm (18.7 in.)
3. Vertical plane passing through the maximum rearward point that the driver airbag cushion reaches
4. Steering wheel
5. Driver airbag retainer/housing
6. Driver airbag cushion

NOTE: Illustration represents the maximum dynamic deployment shape.



NOTE: Illustration represents the final deployment shape.

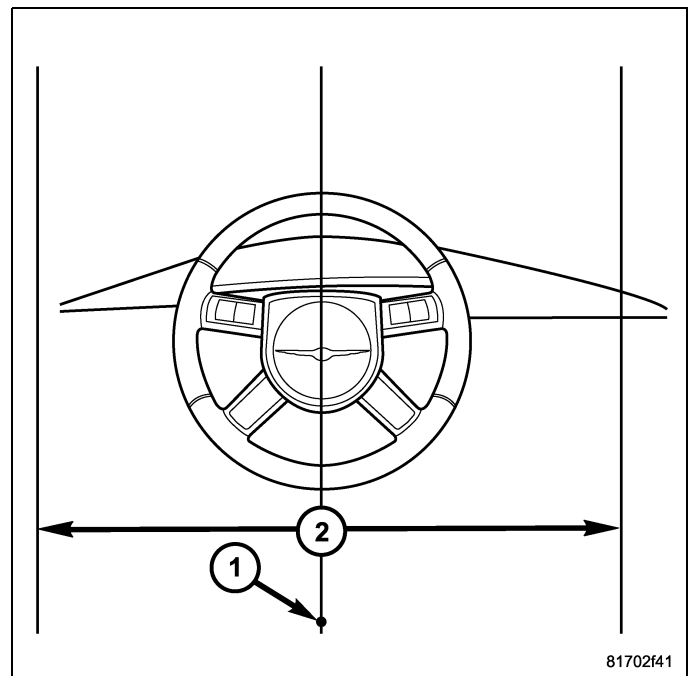


DRIVER AIRBAG/STEERING COLUMN SPECIFICATIONS

Driver Airbag Cushion Position	
DAB diameter when full	673 mm (26.5 in.)
DAB depth when full	381 mm (15 in.)
Maximum rearward displacement during fill	475 mm (18.7 in.)
Steering Column Tilt Position Range	
±2.7 degrees from steering column tilt pivot point	
21.0 degrees from vertical is the nominal position	

The driver airbag lateral deployment zone is identified as follows:

1. Driver seating reference
2. Driver airbag cushion lateral deployment zone is 711 mm (28.0 in.)

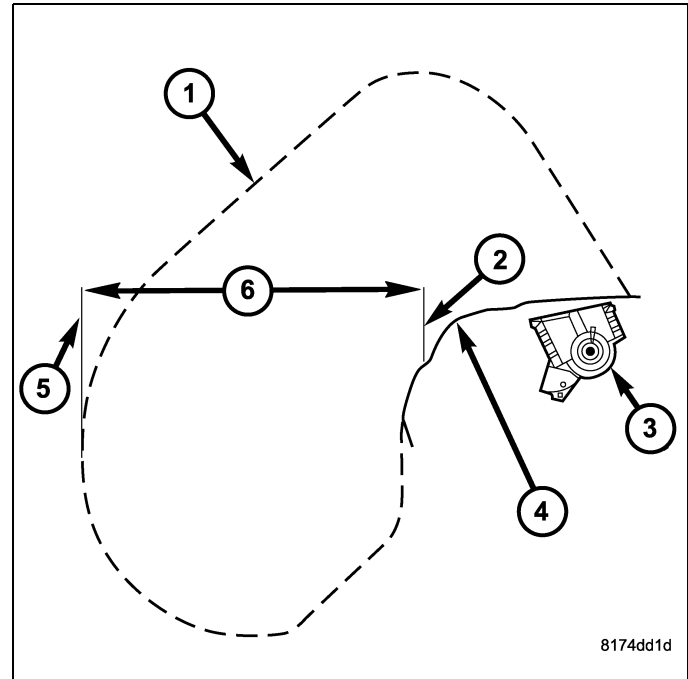


PASSENGER AIRBAG DEPLOYMENT ZONE

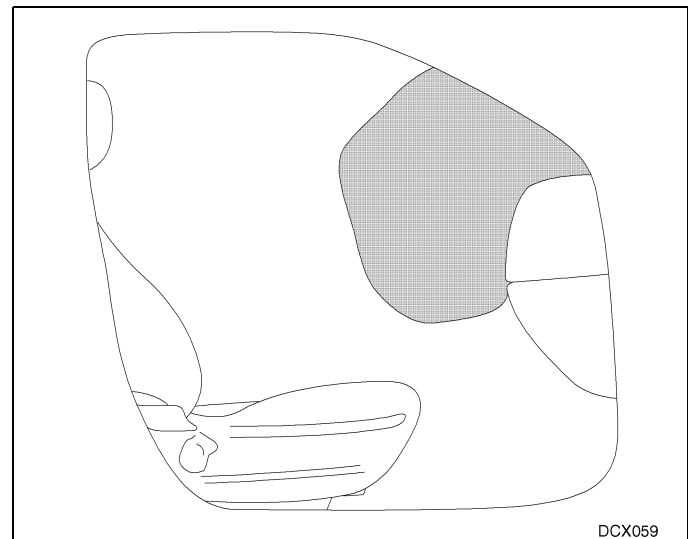
The passenger airbag deployment zone is identified as follows:

1. Passenger airbag cushion
2. Vertical plane from point of instrument panel
3. Passenger airbag module
4. Instrument panel
5. Vertical plane passing through the maximum rearward point that the passenger airbag cushion reaches
6. 470 mm (18.5 in.)

NOTE: Illustration represents the maximum dynamic deployment shape.

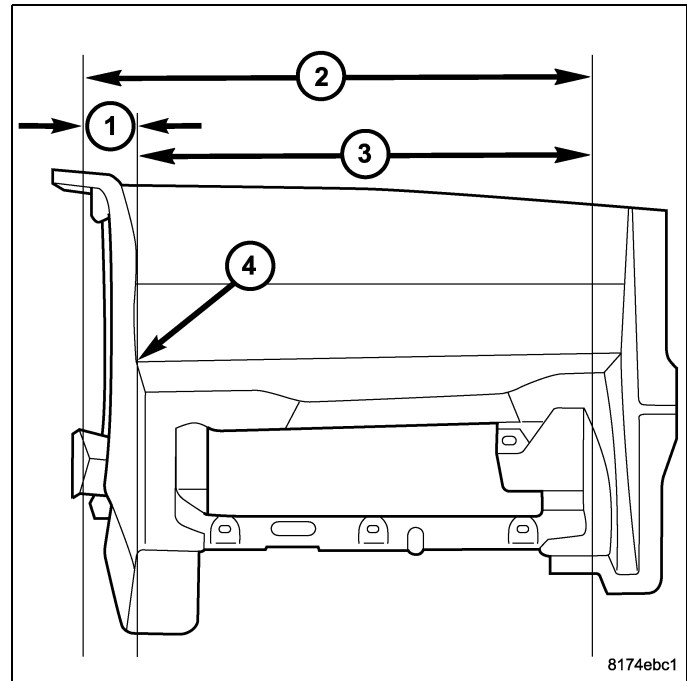


NOTE: Illustration represents the final deployment shape.



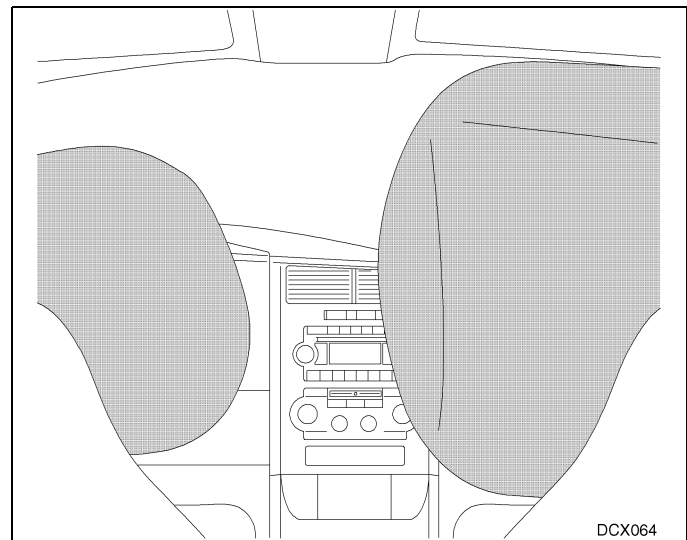
The passenger airbag lateral deployment zone is identified as follows:

1. 71 mm (2.8 in.)
2. Passenger airbag cushion deployment zone
3. 518 mm (20.4 in.)
4. Reference point



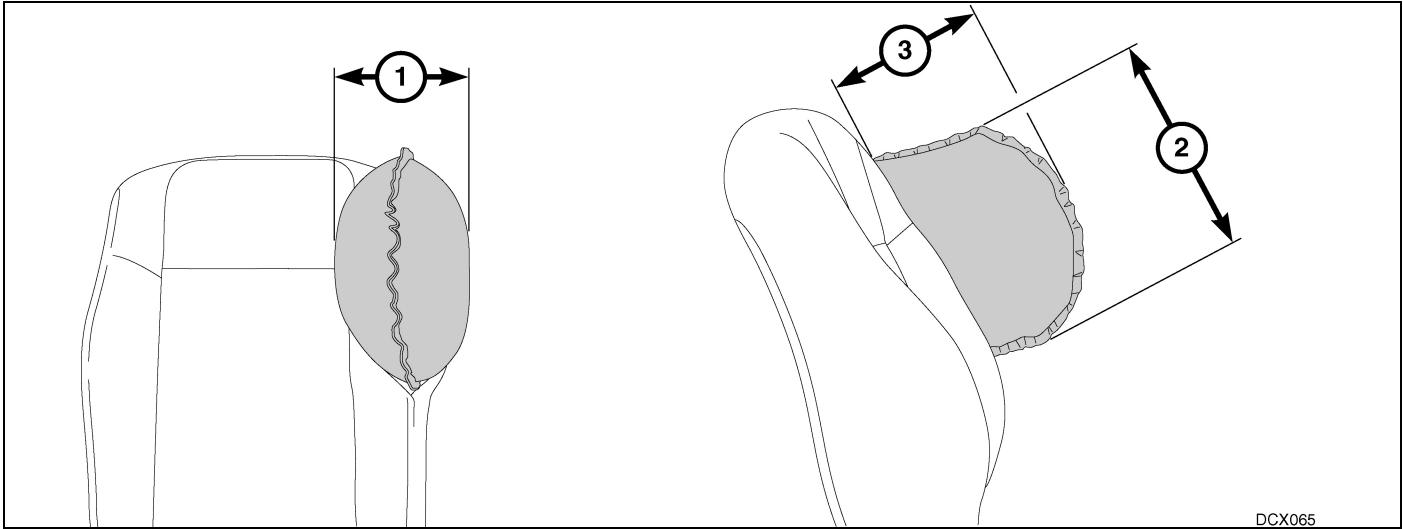
INSTRUMENT PANEL CENTER STACK AREA

Make sure to allow sufficient space so the driver and passenger airbag deployment is not impeded by any equipment mounted in the instrument panel center stack and console area.



SIDE AIRBAG DEPLOYMENT ZONE

NOTE: Illustration represents the final deployment shape.



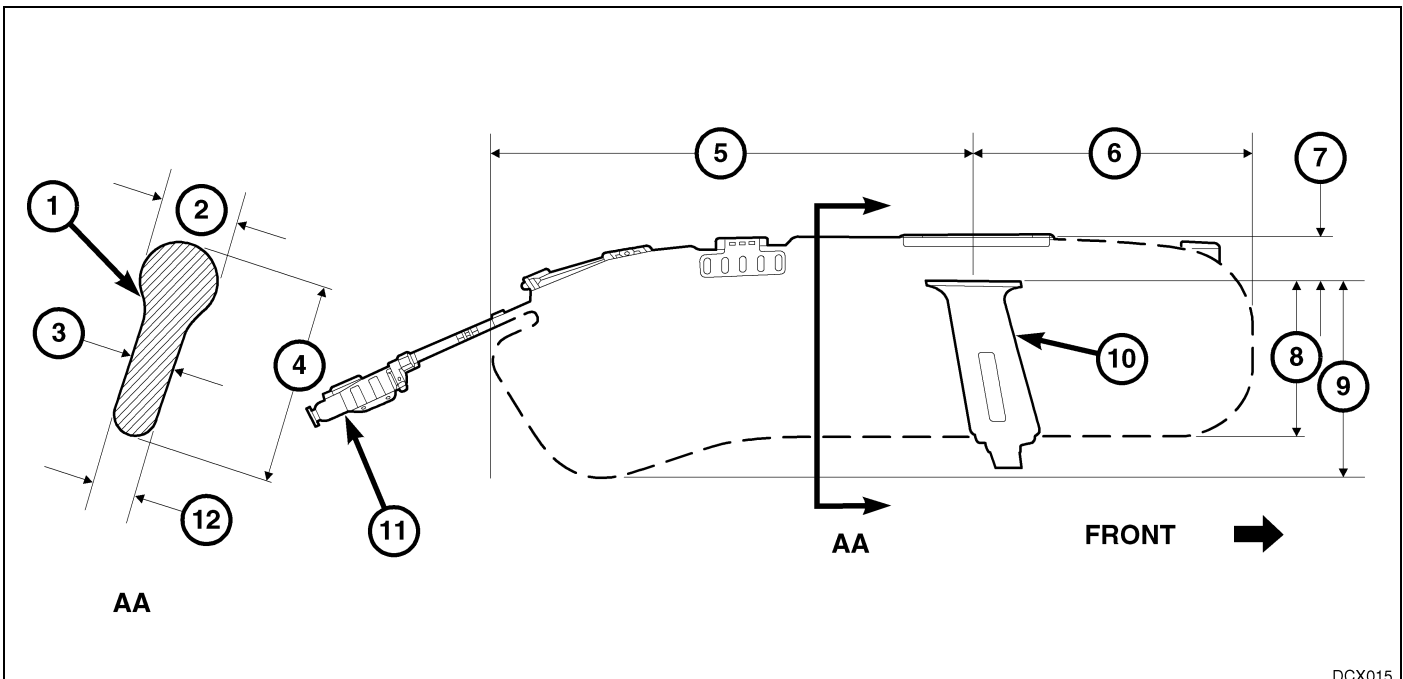
The side airbag deployment zone is identified as follows:

1. 200 mm (7.9 in.)
2. 315 mm (12.4 in.)
3. 285 mm (11.2 in.)

If your vehicle is equipped with left and right seat mounted side airbags, do not have any accessory or equipment items installed in the deployment zones.

SIDE CURTAIN AIRBAG DEPLOYMENT ZONE

If your vehicle is equipped with left and right side curtain airbags, do not have any accessory items installed which will alter the roof. 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. Do not install any equipment on the A, B, C, or D pillar above the bottom of the side glass.



The side curtain airbag deployment zone is identified as follows:

1. Cross-sectional area side view
2. 155.0 mm (6.1 in.)
3. 79.0 mm (3.1 in.)

4. 401.3 mm (15.8 in.)
5. 970.3 mm (38.2 in.)
6. 559.0 mm (22.0 in.)
7. 91.4 mm (3.6 in.)
8. 310.0 mm (12.2 in.)
9. 389.0 mm (15.3 in.)
10. B-pillar trim
11. Side curtain airbag inflator module
12. 89.0 mm (3.5 in.)

VEHICLE MODIFICATIONS

CAUTION: It is imperative that all occupant restraint system components remain in their original location and orientation. Any modification, removal, or relocation of components may be detrimental to the occupant restraint system performance and is prohibited. Any vehicle modification that may affect the occupant restraint system characteristics should be verified through vehicle calibration/impact testing.

OCCUPANT RESTRAINT SYSTEM WIRING

All occupant restraint system wiring must remain intact and may not be used for any other purpose. This includes the driver and front passenger seat wiring. Any electrical connector that is yellow is part of the occupant restraint system and should not be modified or used for other purposes.

OCCUPANT RESTRAINT SYSTEM VERIFICATION

After any modification work is complete, confirm the occupant restraint system readiness as follows:

- Turn the ignition key to the ON position. The airbag lamp in the instrument cluster illuminates for 6 to 8 seconds, and then turns off. If the airbag lamp fails to illuminate, repeatedly cycles on and off, or does not turn off, have the condition corrected by an authorized Chrysler LLC dealership before shipping the vehicle to the customer.

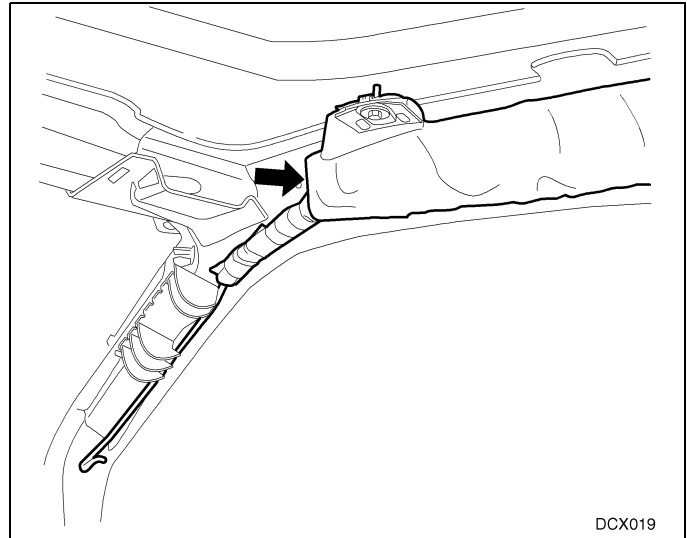
PASSENGER COMPARTMENT

ROOF MOUNTED EQUIPMENT

If the vehicle is equipped with side curtain airbags, take care when installing equipment in the roof area to avoid drilling or installing fasteners in the side curtain airbags area. Also make sure that no equipment installed inside the vehicle interferes with the airbag deployment areas. If additional wiring needs to be routed on the sides of the roof, take care so the installed harness does not impede the airbag deployment. Point fasteners used to attach roof mounted equipment outward from the passenger compartment to minimize risk of head injury and not alter the head impact protection system (FMVSS 201) that is standard on these vehicles. Do not allow fasteners to extend into the passenger compartment, even between the roof and headliner.

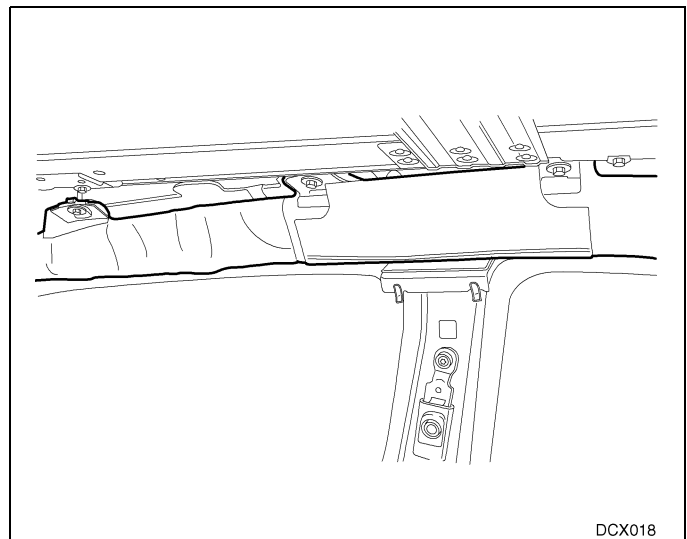
The following graphics represent the location of the side curtain airbags. Installing equipment or installing fasteners that interfere with the side curtain airbag components or impede the side curtain airbags deployment is not permitted.

NOTE: Right side curtain airbag shown, left side similar.



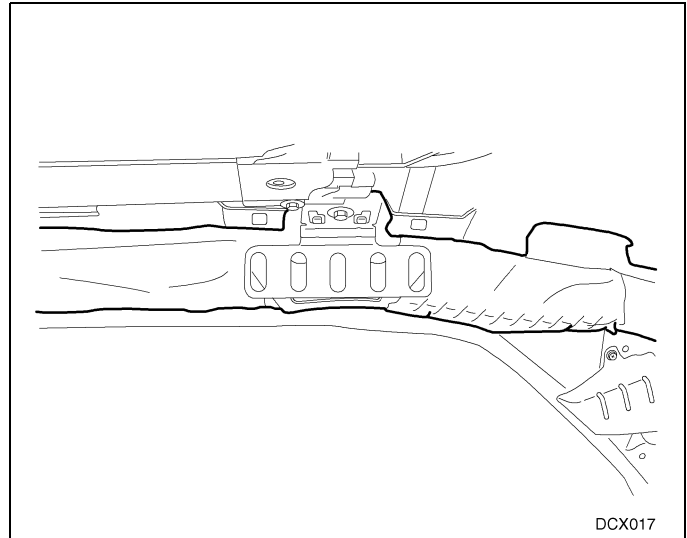
SIDE CURTAIN AIRBAG – FRONT ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



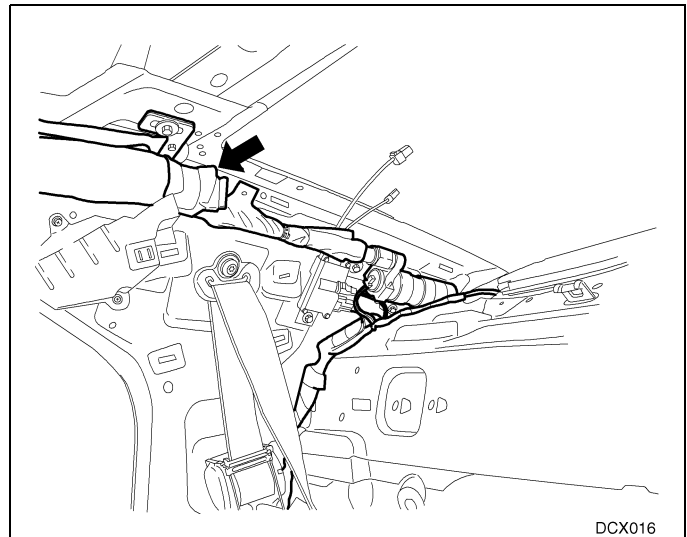
SIDE CURTAIN AIRBAG – CENTER ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



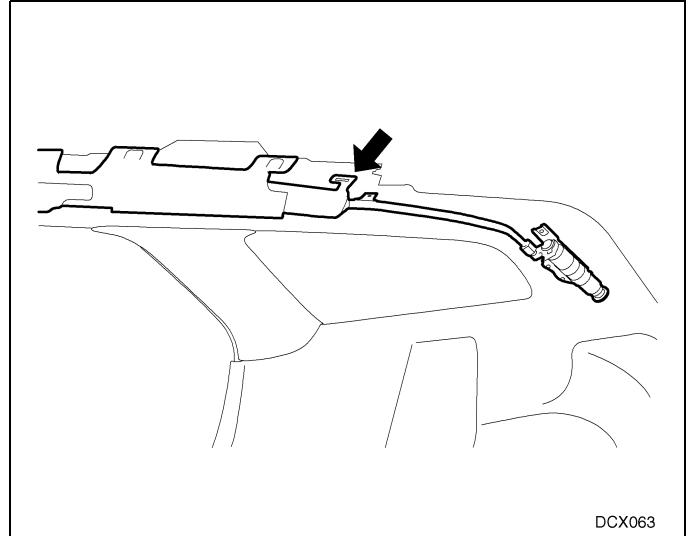
SIDE CURTAIN AIRBAG – REAR ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



**SIDE CURTAIN AIRBAG – C-PILLAR AREA
(CHARGER)**

NOTE: Right side curtain airbag shown, left side similar.



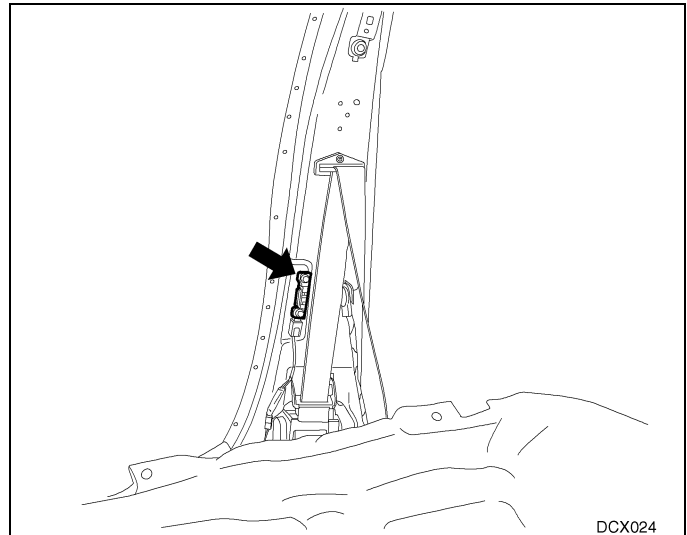
SIDE CURTAIN AIRBAG – C AND D-PILLAR AREA (MAGNUM)

SIDE IMPACT SENSORS

If the vehicle is equipped with side curtain airbags, 4 side impact sensors are mounted inside the vehicle. The location and the orientation of the side impact sensors are critical for correct operation of the occupant restraint system. Do not use the side impact sensor mounting screws as equipment mounting attachment points.

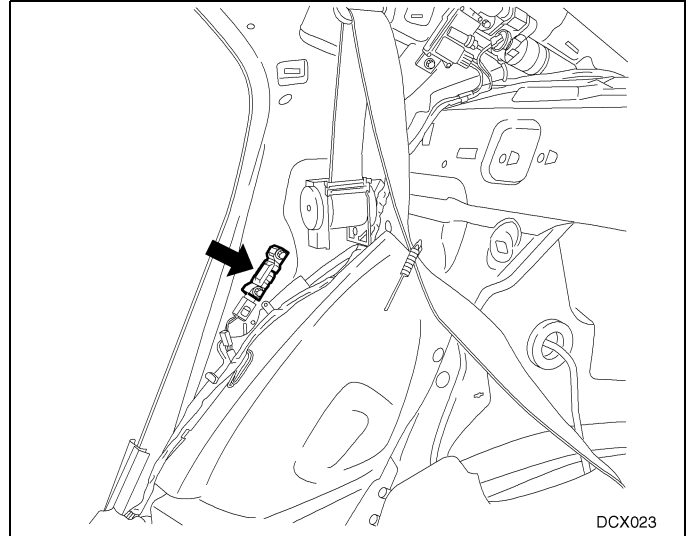
An impact sensor is mounted on the inside of each B-pillar beneath the trim panel.

NOTE: Right side B-pillar impact sensor shown, left side similar.



An impact sensor is mounted on the inside at the base of each C-pillar beneath the trim panel.

NOTE: Right side C-pillar impact sensor shown, left side similar.



SEAT BELTS

All 5 seat belts are equipped with seat belt retractors. The position, orientation, and the mounting bolt torque value are critical for correct operation of the seat belt retractors. Do not move any seat belt mounting point and do not use the seat belt bolts to install equipment. When installing equipment make sure that no interference with the seat belts exist when they are in use. If any of the seat belt mounting bolts are temporarily removed make sure that they are reinstalled properly and that the bolts are tightened to correct torque value. For torque values and complete removal and installation of the seat belts information, refer to the 2008 Dodge Charger and Magnum Service Manual.

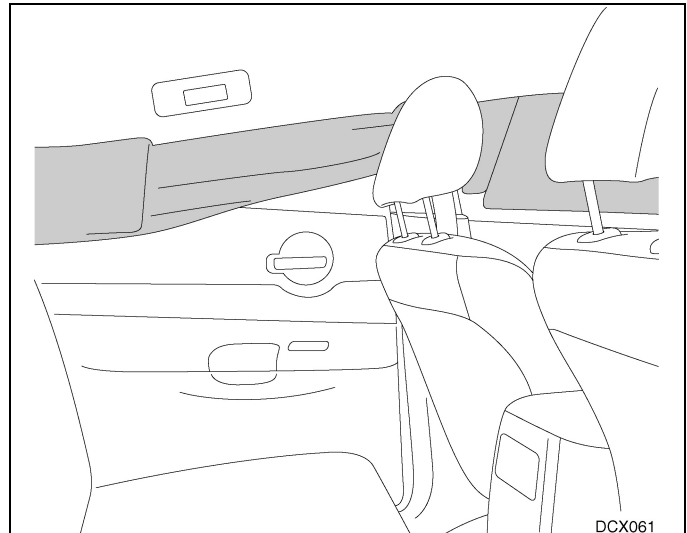
PRISONER PARTITION

If installation of a prisoner partition is intended, the vehicle in question needs to be ordered without left and right side curtain airbags.

WARNING: INSTALLING A PRISONER PARTITION IS NOT RECOMMENDED ON VEHICLES EQUIPPED WITH LEFT AND RIGHT SIDE CURTAIN AIRBAGS, AS THE PRISONER PARTITION MAY INTERFERE WITH AIRBAG DEPLOYMENT AND RESULT IN SERIOUS OR FATAL INJURY IN AN ACCIDENT.

Make sure the area where the side curtain airbag is located remains free from any obstructions.

NOTE: Left side curtain airbag deployed shown, right side curtain airbag similar.



Make sure the prisoner partition does not interfere with the passenger seat and with the seat belt retractors. Once installed, make sure that the prisoner partition does not restrict the front seats and the seat belt operation. In addition, the prisoner partition must block the access to the front passenger seat tracks by a person sitting in the back seat.

SEATS

CAUTION: When installing additional equipment around the front seats, consider the following restrictions:

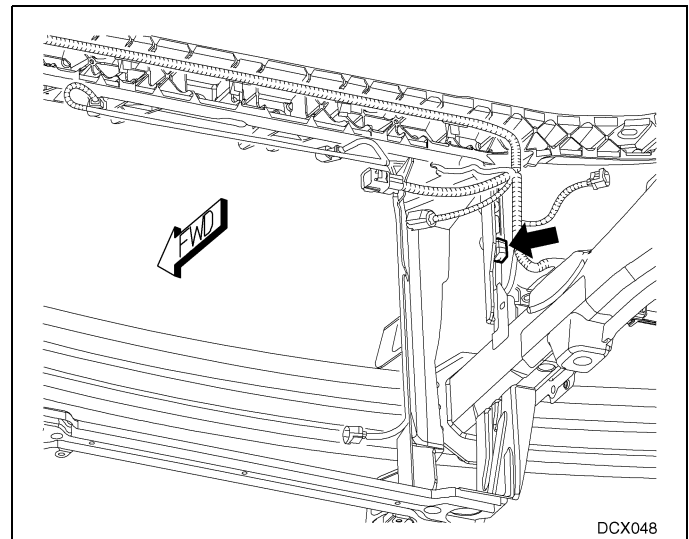
- Make sure no equipment is installed or attached to the passenger seat.
- No seat modifications of any type are permitted.
- Make sure that no equipment interferes with the seats when the seating position is adjusted.
- Do not use the seat mounting bolts to attach any piece of equipment. If the seats are removed from the vehicle, tighten the seat bolts to the appropriate torque value specified in the 2008 Dodge Charger and Magnum Service Manual.

FRONT GRILL AREA

FRONT IMPACT SENSORS

Two front impact sensors are installed on the Dodge Charger and Magnum, one each for the left and right sides of the vehicle. Each front impact sensor is mounted with two screws to the backs of the right and left vertical members of the radiator support within the engine compartment. The location and the orientation of the front impact sensors are critical for correct operation of the occupant restraint system. Do not use the front impact sensor mounting screws as equipment mounting attachment points.

NOTE: Right front impact sensor shown, left front impact sensor similar.



INSTALLATION CONSIDERATIONS

TABLE OF CONTENTS

	Page		Page
GENERAL GUIDELINES	1	VEHICLE UNDERBODY	9
PASSENGER COMPARTMENT	1	FRONT GRILL AREA	9
CARGO/TRUNK AREA	8		

GENERAL GUIDELINES

VEHICLE LOADING

To avoid vehicle overloading conditions, always observe the vehicle loading limits when installing additional equipment. For vehicle loading information, refer to the Tire And Loading Information and the Vehicle Certification labels in the General Information Section of this manual. For complete instructions on load calculation, refer to the vehicle Owner's Manual.

FASTENERS

Always use proper fasteners for each application. If possible select the length of the fastener so that the protrusion beyond the equipment or beyond the sheet metal is kept to a minimum.

Be aware of the following component locations when mounting any additional equipment:

- Occupant restraint system components (see Airbags Section)
- Electronic stability program (ESP) sensor
- Fuel tank
- Fuel lines
- EVAP canister
- Trunk mount battery vent
- Brake lines
- Driveshaft
- Electronic components
- Wiring harnesses

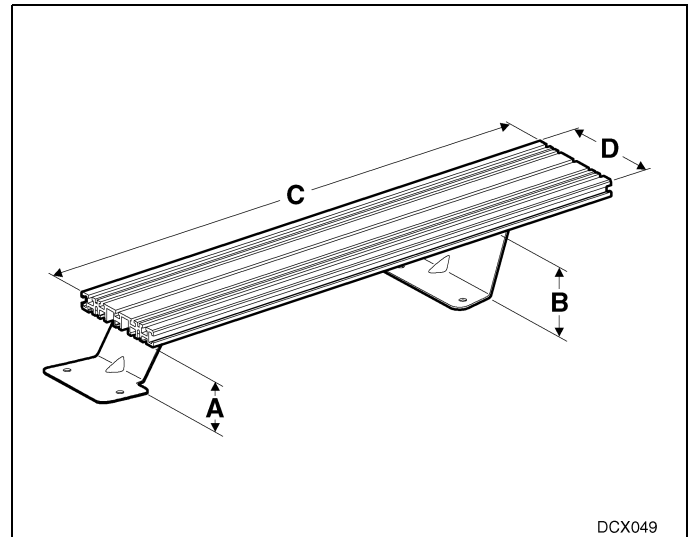
PASSENGER COMPARTMENT

POLICE EQUIPMENT MOUNTING BRACKET (IF EQUIPPED)

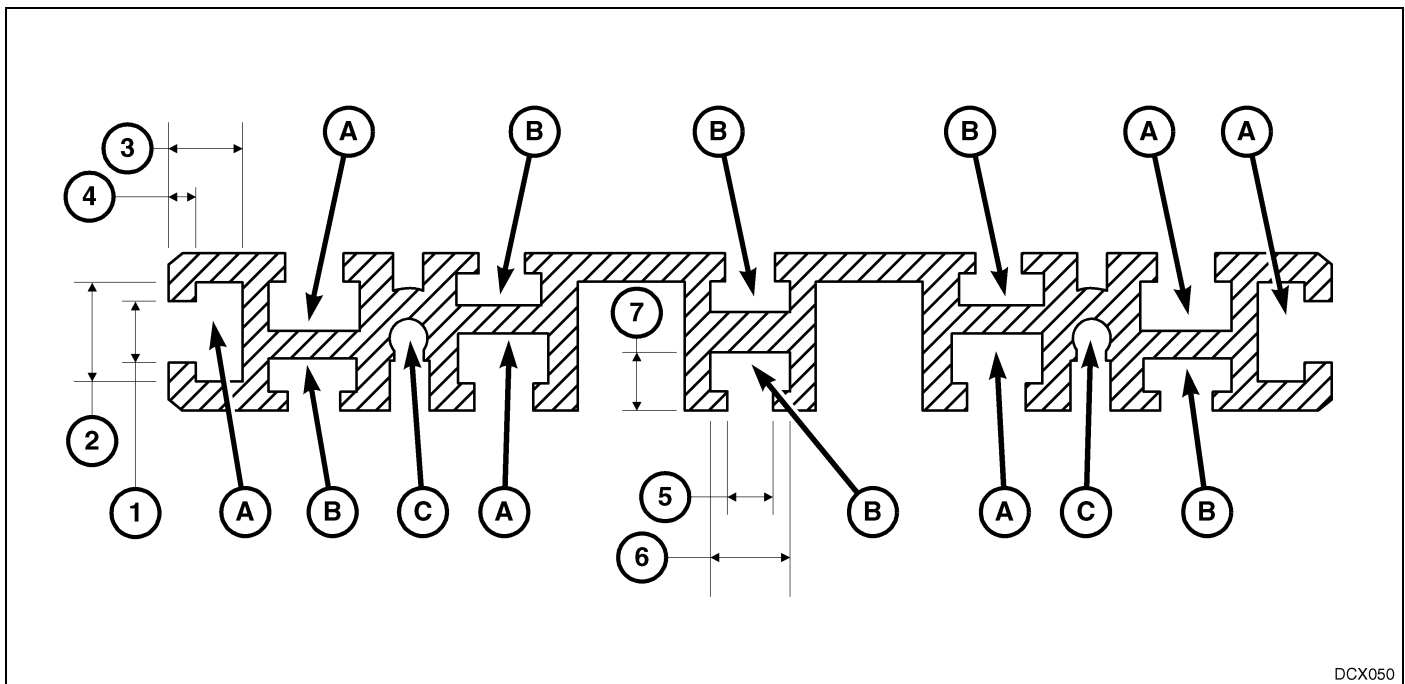
The police equipment mounting bracket is installed in the center console area between the front seats, and is optional on all Dodge Charger and Magnum vehicles equipped with police prep package. The police equipment mounting bracket is provided with longitudinal slots that allows the vehicle modifier to securely mount equipment such as police radios, emergency lights and siren controls, and computers.

The police equipment mounting bracket has the following dimensions:

- A = 42.77 mm (1.7 in.)
- B = 77.72 mm (3.1 in.)
- C = 635.0 mm (2.5 in.)
- D = 140.0 mm (5.5 in.)



DCX049



DCX050

The bracket channels (A) have the following dimensions:

- 1 = 7.56 mm (0.29 in.)
- 2 = 11.70 mm (0.46 in.)
- 3 = 9.2 mm (0.36 in.)
- 4 = 3.18 mm (0.13 in.)

The bracket channels (B) have the following dimensions:

- 5 = 5.53 mm (0.22 in.)
- 6 = 9.62 mm (0.38 in.)
- 7 = 5.95 mm (0.23 in.)

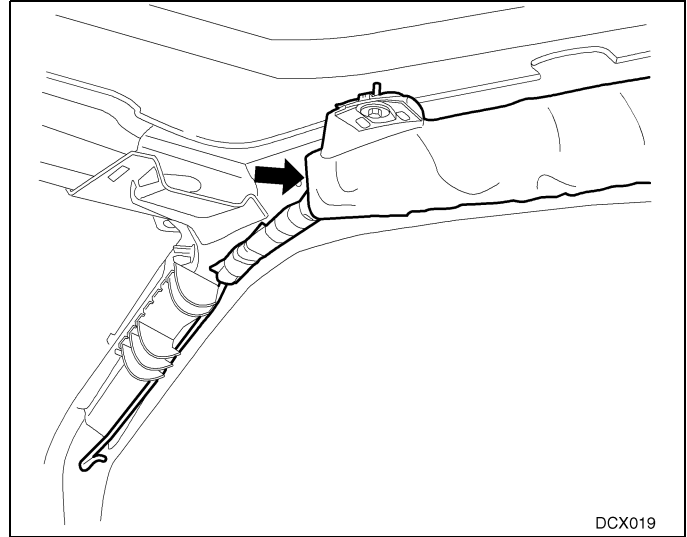
The holes (C) are 4.41 mm (0.17 in.) in diameter and can be threaded for end of bracket attachments.

ROOF MOUNTED EQUIPMENT

If the vehicle is equipped with side curtain airbags, take care when installing equipment in the roof area to avoid drilling or installing fasteners in the side curtain airbags area. Also make sure that no equipment installed inside the vehicle interferes with the airbag deployment areas. If additional wiring needs to be routed on the sides of the roof, take care so the installed harness does not impede the airbag deployment. Point fasteners used to attach roof mounted equipment outward from the passenger compartment to minimize risk of head injury and not alter the head impact protection system (FMVSS 201) that is standard on these vehicles. Do not allow fasteners to extend into the passenger compartment, even between the roof and headliner.

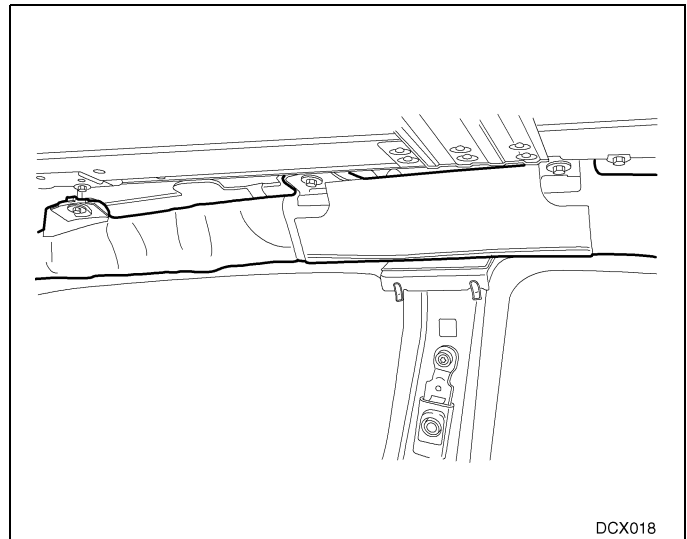
The following graphics represent the location of the side airbags. Installing equipment or installing fasteners that interfere with the side airbag components or impede the side airbags deployment is not permitted.

NOTE: Right side curtain airbag shown, left side similar.



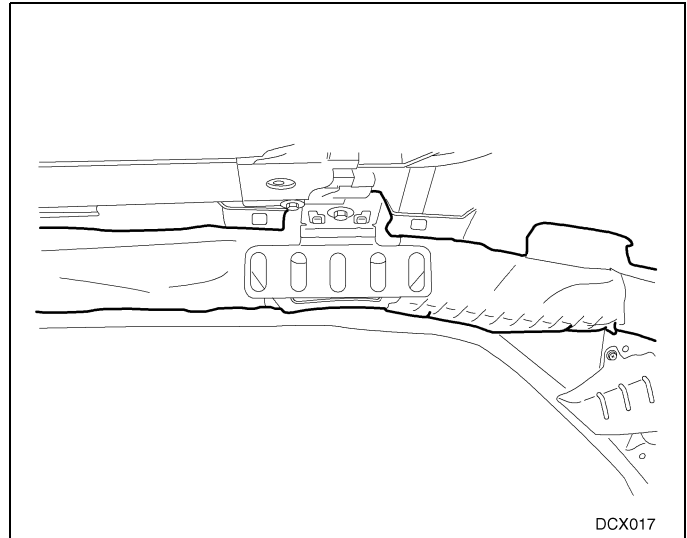
SIDE CURTAIN AIRBAG – FRONT ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



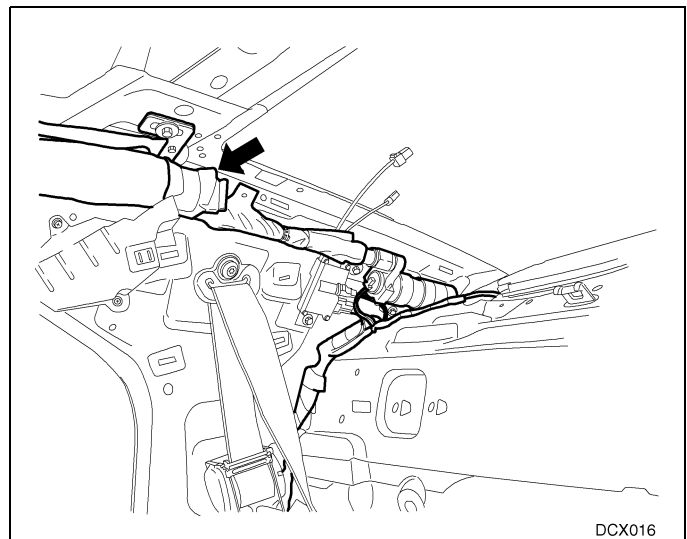
SIDE CURTAIN AIRBAG – CENTER ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



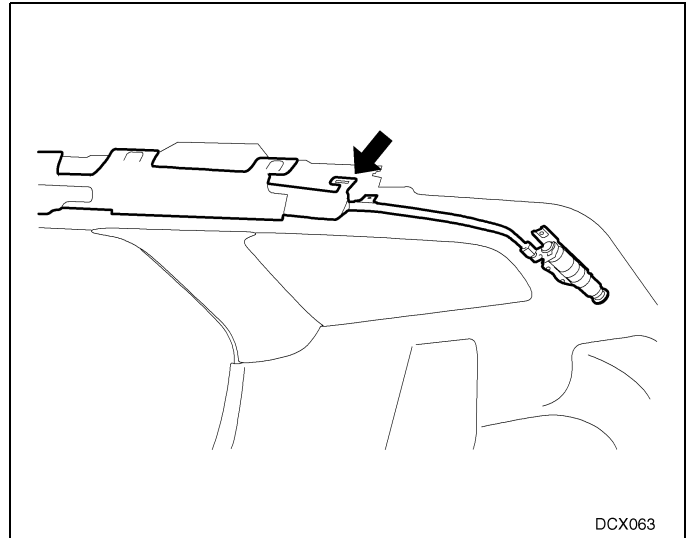
SIDE CURTAIN AIRBAG – REAR ROOF AREA

NOTE: Right side curtain airbag shown, left side similar.



**SIDE CURTAIN AIRBAG – C-PILLAR AREA
(CHARGER)**

NOTE: Right side curtain airbag shown, left side similar.



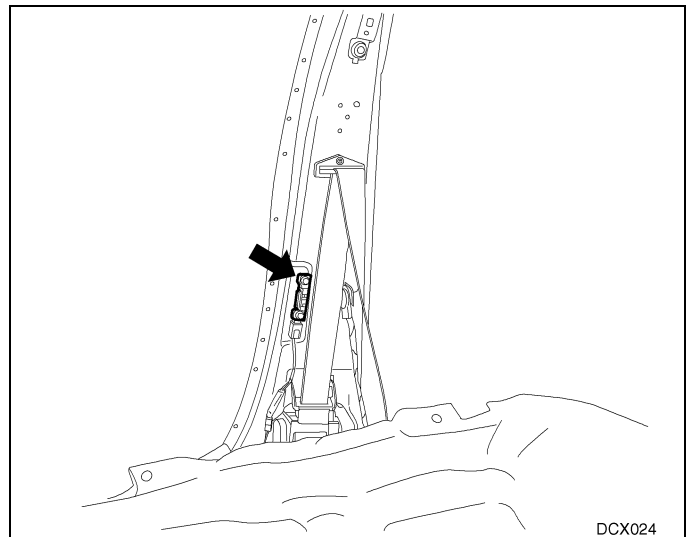
SIDE CURTAIN AIRBAG – C AND D-PILLAR AREA (MAGNUM)

SIDE IMPACT SENSORS

If the vehicle is equipped with side curtain airbags, 4 side impact sensors are mounted inside the vehicle. The location and the orientation of the side impact sensors are critical for correct operation of the occupant restraint system. Do not use the side impact sensor mounting screws as equipment mounting attachment points.

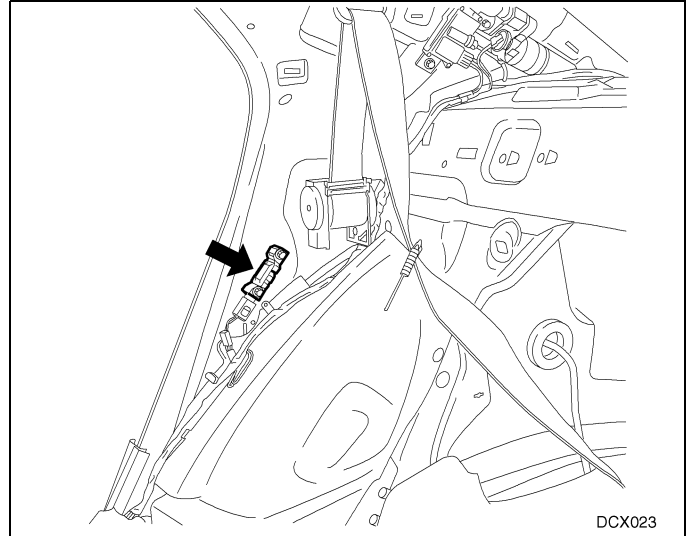
An impact sensor is mounted on the inside of each B-pillar beneath the trim panel.

NOTE: Right side B-pillar impact sensor shown, left side similar.



An impact sensor is mounted on the inside at the base of each C-pillar beneath the trim panel.

NOTE: Right side C-pillar impact sensor shown, left side similar.



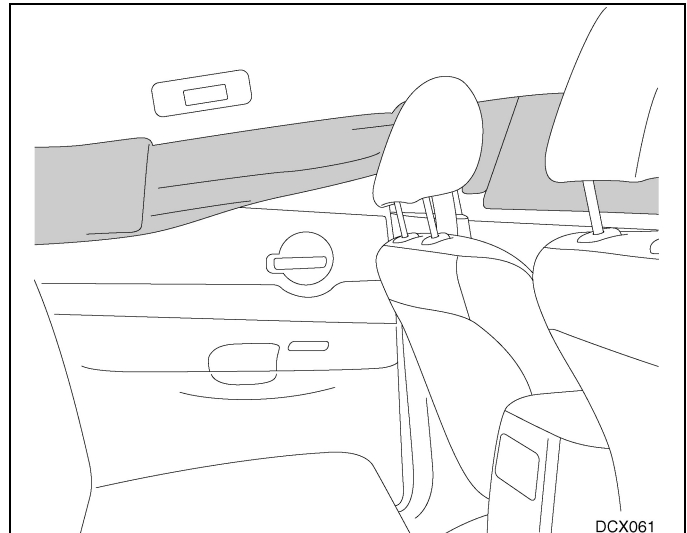
SEAT BELTS

All 5 seat belts are equipped with seat belt retractors. The position, orientation, and the mounting bolt torque value are critical for correct operation of the seat belt retractors. Do not move any seat belt mounting point and do not use the seat belt bolts to install equipment. When installing equipment make sure that no interference with the seat belts exist when they are in use. If any of the seat belt mounting bolts are temporarily removed make sure that they are reinstalled properly and that the bolts are tightened to correct torque value. For torque values and complete removal and installation of the seat belts information, refer to the 2008 Dodge Charger and Magnum Service Manual.

PRISONER PARTITION

If installation of a prisoner partition is intended, the vehicle in question needs to be ordered without left and right side curtain airbags. Installing a prisoner partition is not recommended on vehicles equipped with left and right side curtain airbags, as the prisoner partition may interfere with airbag deployment. Make sure the area where the side curtain airbag is located remains free from any obstructions.

NOTE: Left side airbag deployed shown, right side airbag similar.



Make sure the prisoner partition does not interfere with the passenger seat and with the seat belt retractors. Once installed, make sure that the prisoner partition does not restrict the front seats and the seat belt operation.

SEATS

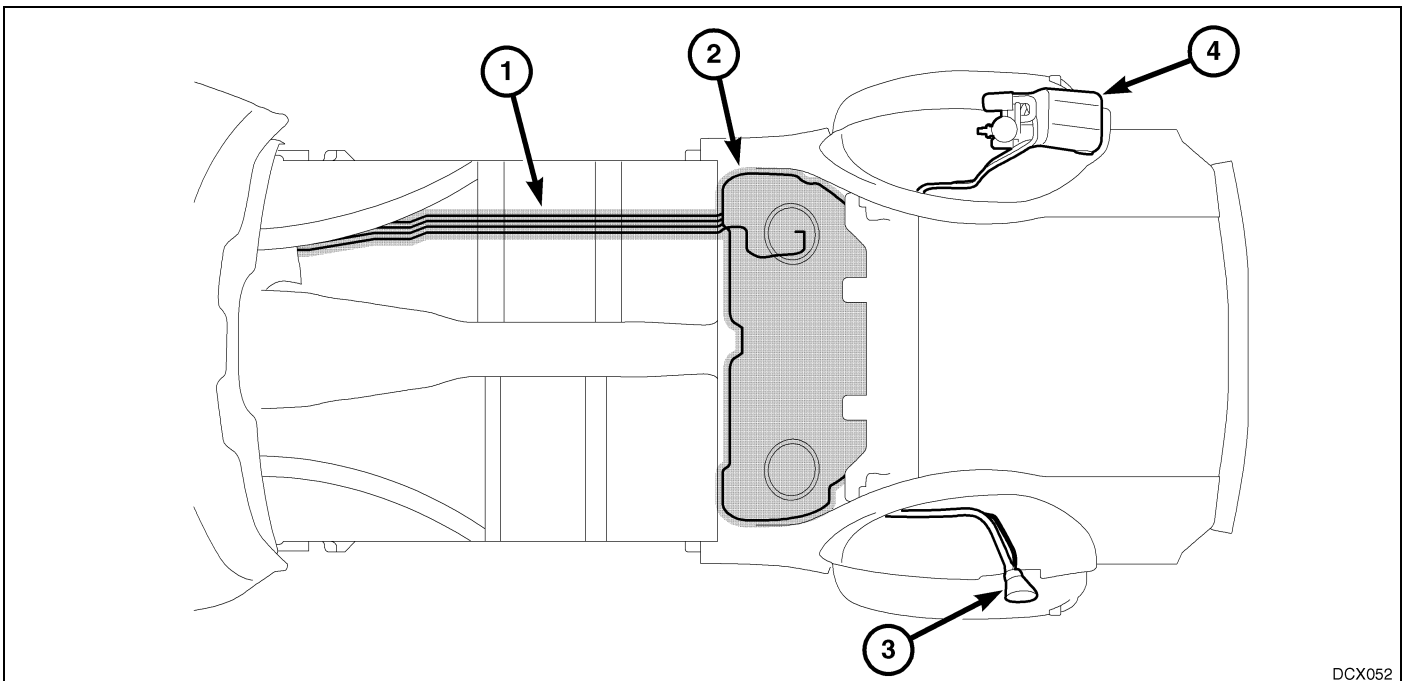
WARNING: IF EQUIPPED WITH OCCUPANT CLASSIFICATION SYSTEM (OCS), THE SEAT WEIGHT SENSOR IS A SENSITIVE, CALIBRATED UNIT AND MUST BE HANDLED CAREFULLY. DO NOT DROP OR HANDLE ROUGHLY. IF DROPPED OR DAMAGED, REPLACE WITH ANOTHER SENSOR. FAILURE TO DO SO MAY RESULT IN OCCUPANT INJURY OR DEATH.

WARNING: IF EQUIPPED WITH OCS, THE FRONT PASSENGER SEAT MUST BE HANDLED CAREFULLY AS WELL. WHEN REMOVING THE SEAT, BE CAREFUL WHEN SETTING ON FLOOR NOT TO DROP. IF DROPPED, THE SENSOR MAY BE INOPERATIVE, COULD RESULT IN OCCUPANT INJURY, OR POSSIBLY DEATH.

WARNING: IF EQUIPPED WITH OCS, WHEN THE PASSENGER FRONT SEAT IS ON THE FLOOR, NO ONE SHOULD SIT IN THE FRONT PASSENGER SEAT. THIS UNEVEN FORCE MAY DAMAGE THE SENSING ABILITY OF THE SEAT WEIGHT SENSORS. IF SAT ON AND DAMAGED, THE SENSOR MAY BE INOPERATIVE, COULD RESULT IN OCCUPANT INJURY, OR POSSIBLY DEATH.

When installing additional equipment around the front seats, consider the following restrictions:

- Make sure no equipment is installed or attached to the passenger seat.
- No seat modifications of any type are permitted.
- Make sure that no weight is added to the passenger seat.
- Make sure that no equipment interferes with the seats when the seating position is adjusted.
- Maintain 10–12 mm (0.4-0.5 in) of clearance around the passenger seat.
- Do not use the seat mounting bolts to attach any piece of equipment. If the seats are removed from the vehicle, tighten the seat bolts to the appropriate torque value specified in the 2008 Dodge Charger and Magnum Service Manual.

FUEL LINES AND TANK

DCX052

The fuel and brake lines (1) are routed under the right side floor pan area. To avoid fuel and brake line damage, take care when drilling or installing fasteners on the floor pan area.

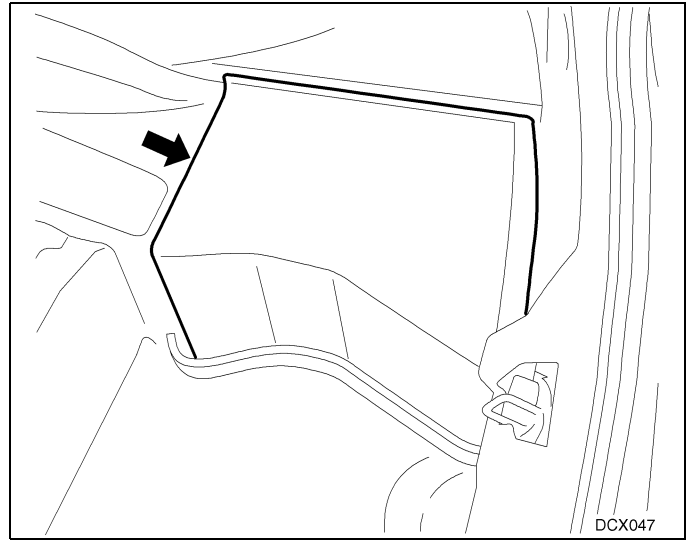
The fuel tank (2) is located underbody under the rear seat area. Installation of self-tapping fasteners or drilling in the floor pan under the back seat area is not permitted.

To avoid fuel tank filler tube (3) and vapor canister (4) damage, take care when drilling or installing fasteners in the left and right rear inner wheelhouse areas.

CARGO/TRUNK AREA

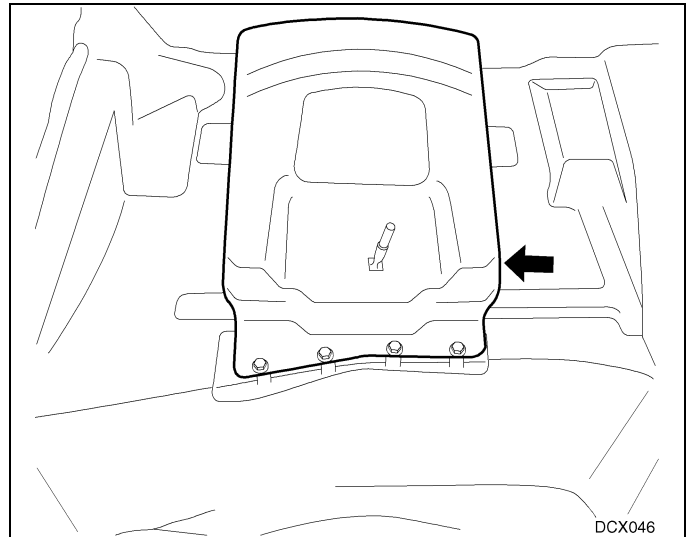
BATTERY COVER

If the vehicle is equipped with a full size spare tire, the battery has an individual cover. Permanent removal of the battery cover is not permitted. Always make sure that the battery cover is seated properly after work is performed in the trunk/cargo area.



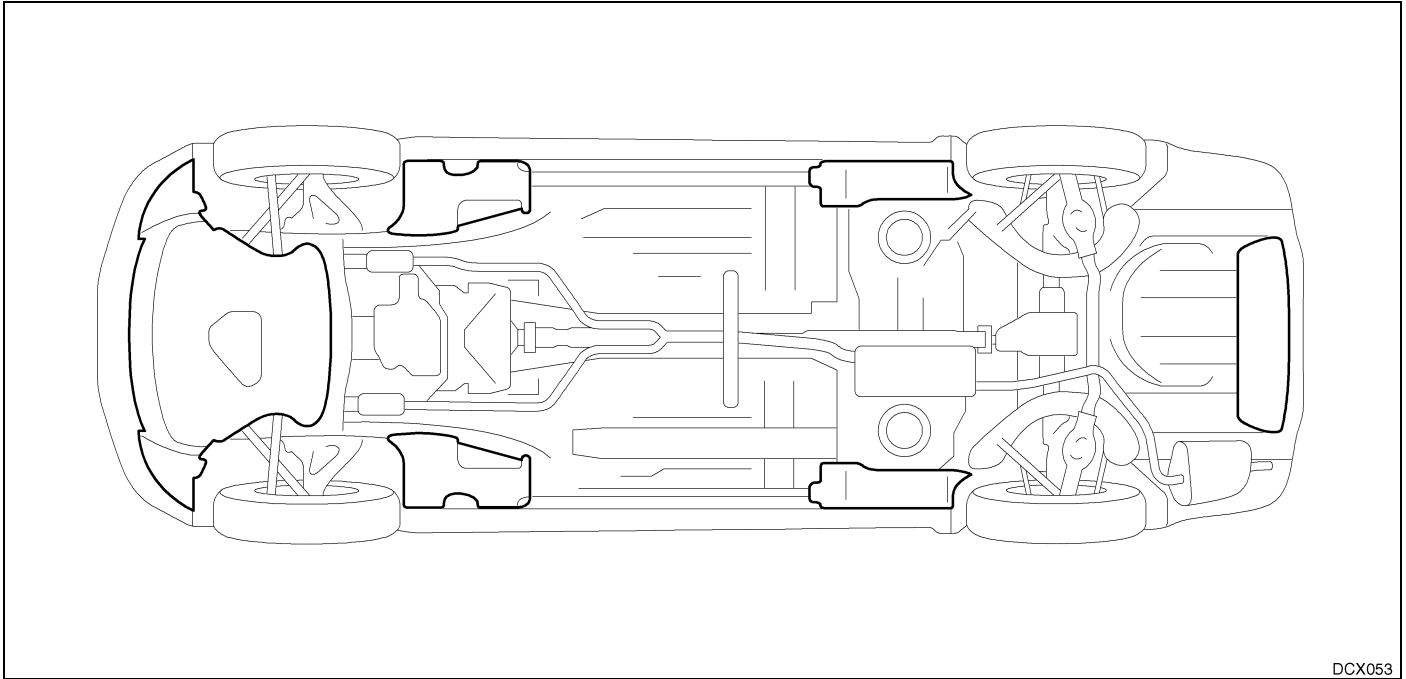
FULL SIZE SPARE TIRE MOUNTING BRACKET

If the vehicle is equipped with a full size spare tire, a spare tire bracket is bolted to the trunk/cargo area floor pan.



VEHICLE UNDERBODY

BELLY PANS



The Dodge Charger and Magnum are equipped with 6 underbody shield panels. Removal of these panels may alter the vehicle functions and is not recommended.

SKID PLATES

Additional skid plates can obstruct the air flow under the vehicle and may alter the vehicle functions.

DRIVESHAFT CLEARANCE

Always consider the clearance between the underbody sheet metal and the driveshaft when installing any equipment in the driveshaft tunnel area.

FRONT GRILL AREA

FRONT BUMPER

If the front bumper and bumper mounting system are removed temporarily, reinstall the front bumper and bumper mounting system in accordance with the instructions provided in the 2008 Dodge Charger and Magnum Service Manual. The front bumper and bumper mounting system cannot be replaced with parts other than OEM. The crash sensing of the front airbag systems is tuned, in part, to the front bumper. Retain the original front bumper system (beam, brackets and fascia). Modifications, deletions or additions to the front bumper (such as pushbars, bullbars, and bumper-mounted bicycle racks) are not recommended as they may change the crash sensitivity and protection of the frontal impact inflatable occupant restraint system.

Reduced air flow through the radiator grille could put additional strain on the engine cooling system, reduce the engine performance, and shorten the operational life of related components.

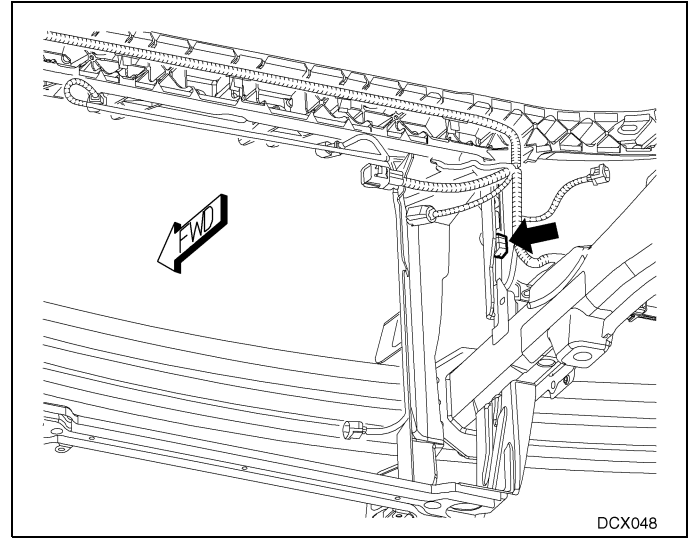
HEADLAMPS MOUNTING CROSSMEMBER

The headlamps mounting crossmember is a critical component of the body structure and cannot be replaced with parts other than OEM. No drilling or any other modification of the headlamps mounting crossmember is permitted. Any modification, including welding or drilling, of the headlamps mounting crossmember may reduce its strength and alter its intended deformation in event of a vehicle crash.

FRONT IMPACT SENSORS

Two front impact sensors are installed on the Dodge Charger and Magnum, one each for the left and right sides of the vehicle. Each front impact sensor is mounted with two screws to the backs of the right and left vertical members of the radiator support within the engine compartment. The location and the orientation of the front impact sensors are critical for correct operation of the occupant restraint system. Do not use the front impact sensor mounting screws as equipment mounting attachment points.

NOTE: Right front impact sensor shown, left front impact sensor similar.



SIREN AND GRILLE LIGHTS

Proper air flow through the radiator grille area needs to be maintained in order to keep the engine cooling system operating at its intended capacity. When installing any additional equipment such as sirens or additional lights, make sure that the air flow through the radiator grille is not obstructed by any equipment.

Reduced air flow through the radiator grille could put additional strain on the engine cooling system, reduce the engine performance, and shorten the operational life of related components.