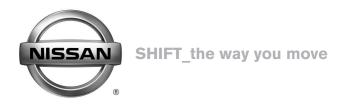
# 2013 NV200 COMPACT CARGO



# **FOREWORD**

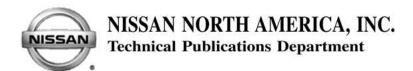
This manual contains body builder's information for the 2013 NISSAN NV200 Compact Cargo.

In order to assure your safety and the efficient functioning of the vehicle, this guide should be read thoroughly.

All information in this guide is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

#### **IMPORTANT SAFETY NOTICE**

The proper performance of procedures is essential for both the safety of the technician and the efficient functioning of the vehicle. The methods in this Body Builder's Guide are described in such a manner that they may be performed safely and accurately. Methods vary with the procedures used, the skills of the technician and the tools and parts available. Accordingly, anyone using procedures, tools or parts which are not specifically recommended by NISSAN must first be completely satisfied that neither personal safety nor the vehicle's safety will be jeopardized by the method selected.



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# SECTION BBG

# **BODY BUILDERS GUIDE**

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# GENERAL INFORMATION

#### **DISCLAIMER**

#### **Important Regulatory Information**

Emission standards and motor vehicle safety standards for new vehicles and equipment have been established by the United States and Canadian Governments under the provisions of the Clean Air Act, the Noise Control Act, and the National Traffic and Motor Vehicle Safety Act in the U.S., and the Canadian Motor Vehicle Safety Act in Canada. These Acts govern NISSAN as the original equipment manufacturer of the NISSAN NV200 Compact Cargo vehicles. They also govern dealers, body builders, and all others who manufacture and market new motor vehicles and equipment. Part 568 of the Title 49 Code of Federal Regulations (CFR) describes requirements for intermediate manufacturers, final-stage manufacturers, and manufacturers who assume legal responsibility for a vehicle. This Body Builder's Guide (Guide) partially fulfills NISSAN's obligations as the original equipment manufacturer. Additionally, this guide identifies regulatory requirements to assist intermediate and final stage manufacturers to determine their obligations to conform with these standards.

Compliance labels affixed to NISSAN NV200 Compact Cargo vehicles provide the status of initial compliance at the date of manufacture by NISSAN. Subsequent modifications made to this vehicle may affect the final certification of the engine, vehicle or equipment. The body builder, conversion company, or dealer has the responsibility to certify that the altered vehicle and equipment complies or continues to comply with all applicable motor vehicle safety standards and emissions regulations. The body builder, conversion company, or dealer is responsible for making sure the modifications or installed equipment does not affect the safety of the vehicle, which may result in a collision, serious personal injury or death.

NISSAN does not assume the responsibility as the final stage manufacturer for modified or altered vehicles. NISSAN is not responsible for the final certification, product liability claims, or warranty claims, resulting from any component, assembly, or system being altered by the body builder, conversion company, dealer or vehicle purchaser. NISSAN is not responsible for modifications which cause the vehicle to become noncompliant with any of the motor vehicle safety standards, emissions regulations, or modifications that cause the vehicle to be or become defective or unsafe.

#### Disclaimer

All information, specifications and illustrations in this manual are those in effect at the time of printing. NISSAN reserves the right to change specifications or design without notice and without obligation.

The body builder, conversion company, aftermarket equipment manufacturer, second stage manufacturer, upfitter, dealer and the vehicle purchaser are responsible to abide by the regulations issued by the National Highway Traffic Safety Administration (NHTSA), the Occupational Safety and Health Act (OSHA), state, local, or provincial government laws. These regulations and laws may require the installation of additional equipment for the intended vehicle uses.

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#### **SERVICE INFORMATION AND TOOLS**

[GENERAL INFORMATION]

#### SERVICE INFORMATION AND TOOLS

For service information, refer to http://www.nissan-techinfo.com.

For special service tools, refer to http://www.nissantechmate.com.

**BBG** 

#### **CONTACT INFORMATION**

[GENERAL INFORMATION]

#### **CONTACT INFORMATION**

#### General

NISSAN Commercial and Fleet Aftermarket Engineering 1 (855) 651-6655.

#### **WARRANTY**

[GENERAL INFORMATION]

#### **WARRANTY**

#### **Emissions Control System Warranty**

For NISSAN warranty information, refer to the Warranty Information Booklet in the Owner's Manual package.

**BBG** 

#### **DEFINITIONS OF TERMS**

The following definitions are from Title 49, Code of Federal Regulations, Parts 567.3, 568.3 and 571.3 where noted. Canadian definitions are from Canada Motor Vehicle Safety Regulations, Section 2(1), and are in italics. NISSAN definitions are for the purpose of this publication only. Some terms are followed by an abbreviation that is used throughout this publication.

#### **USA**

**Accessory Reserve Capacity (ARC)** — The amount of accessory or modification weight that can be added to a vehicle before its unloaded vehicle weight exceeds the unloaded vehicle weight for which Nissan has established FMVSS/CMVSS compliance.

**Brake Switch** — Brake switch signal is applied to the ECM through the stop lamp switch when the brake pedal is depressed. This signal is used mainly to decrease the engine speed while driving the vehicle.

**Completed Vehicle** — A vehicle that requires no further manufacturing operations to perform its intended function, other than the addition of readily attachable components, such as mirrors or tire and rim assemblies, or minor finishing operations such as painting. (49CFR568.3)

**Curb Weight** — Is the weight of a motor vehicle with standard equipment; maximum capacity of engine fuel, oil, and coolant; and if so equipped, air conditioning and additional weight optional engine. (49CFR571.3)

**Engine Control Module (ECM)** — The ECM consists of a microcomputer and connectors for signal input and output and for the power supply, and also controls the engine.

**Gross Combination Weight Rating (GCWR)** — The value specified by the manufacturer as the loaded weight of a combination vehicle. (49CFR571.3)

**Gross Vehicle Weight Rating (GVWR)** — The value specified by the manufacturer as the loaded weight of a single vehicle. (49CFR571.3)

**HO2 Heated Oxygen Sensor** — The sensor after the three-way catalyst (manifold) that monitors the oxygen level in the exhaust gas on each bank.

**Lamps, Reflective Devices, and Associated Equipment** — A lamp that is mounted on a multipurpose passenger vehicle, truck, or bus for the purpose of providing illumination to load or unload cargo.

**Seating system**— Any seating position that can be adjusted to conform to different configurations.

**SgRP** — The theoretical hip point used by manufacturers when designing a vehicle. More specifically, it describes the relative position of the seated dummy's hip point when the seat is set in the rearmost and lowermost seating position. Also known as the "R-point" (reference point).

**Throttle Position Sensor (TPS)** — The electric throttle control actuator that consists of the throttle control motor, throttle position sensor, etc. The throttle position sensor responds to the throttle valve movement.

**Truck** — A motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment. (49CFR571.3)

**Unloaded Vehicle Weight (UVW)** — The weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when it is not in use. (49CFR571.3)

**Vehicle Speed Sensor (VSS)** — ECM receives vehicle speed signals from two different paths via CAN communication line: One is from the ABS actuator and electric unit (control unit) via the combination unit, and the other is from the TCM.

**Walk-In Van** — A van type of truck in which a person having a height of 1,700 mm (66.93 in) can enter the occupant compartment in an upright position by a front door.

#### Canada

**Accessory Reserve Capacity (ARC)** — The amount of accessory or modification weight that can be added to a vehicle before its unloaded vehicle weight exceeds the unloaded vehicle weight for which Nissan has established FMVSS/CMVSS compliance.

**Brake Switch** — Brake switch signal that is applied to the ECM through the stop lamp switch when the brake pedal is depressed. This signal is used mainly to decrease the engine speed when driving the vehicle.

**Completed Vehicle** — A vehicle that needs no further manufacturing operations to perform its intended function, other than the addition of readily attachable components, such as minor finishing operations such as painting.

**Curb Weight** — Is the weight of a vehicle with standard equipment and carrying its maximum capacity of fuel, oil, and coolant and includes the weight of any air conditioning equipment on the vehicle and the amount by which the weight of any optional engine with which the vehicle is equipped exceeds the weight of the standard engine.

**Engine Control Module (ECM)** — The ECM consists of a microcomputer and connectors for signal input and output and for the power supple. The ECM also controls the engine.

**Gross Combination Weight Rating** — The value specified by the manufacturer as the loaded weight of a combination vehicle. (49CFR571.3).

**Gross Vehicle Weight Rating or "GVWR"** — The value specified by the vehicle manufacturer as the loaded weight of a single vehicle.

**H02 Heated Oxygen Sensor** — The sensor after the three-way catalyst (manifold) that monitors the oxygen level in the exhaust gas on each bank.

**Lamps, Reflective Devices, and Associated Equipment** — A lamp that is mounted on a multipurpose passenger vehicle, truck, or bus for the purpose of providing illumination to load or unload cargo or passenger.

**Seating System** — Any seating position that can be adjusted to conform to different configurations.

**SgRP** — The theoretical hip point used by manufacturers when designing a vehicle. More specifically, it describes the relative position of the seated dummy's hip point when the seat is set in the rearmost and lowermost seating position. Also known as the "R-point" (reference point).

**Throttle Position Sensor (TPS)** — The electric throttle control actuator consisting of the throttle control motor, throttle position sensor, etc. The throttle position sensor responds to the throttle valve movement.

**Truck** — A motor vehicle designed primarily for the transportation of property or special-purpose equipment, but does not include a competition vehicle, a crawler-mounted vehicle, a three-wheeled vehicle, a trailer, a work vehicle, a vehicle imported temporarily for special purposes, a vehicle designed for operation exclusively off-road or a low-speed vehicle.

**Unloaded Vehicle Weight** — The weight of a vehicle equipped with the containers for the fluids necessary for the operation of the vehicle filled to their maximum capacity, but without cargo or occupants.

**Vehicle Speed Sensor (VSS)** — The speed signal sent to the ECM from the sensor. The ECM receives vehicle speed signals from two different paths via the CAN communication line. One signal is from the ABS actuator and electric unit (control unit) via the combination unit, and the other signal is sent from the TCM.

**Walk In Van** — A van type of truck in which a person having a height of 1,700 mm (66.93 in) can enter the occupant compartment in an upright position by a front door.

# SUPPLEMENTAL RESTRAINT SYSTEM (SRS) PRECAUTIONS [SAFETY INFORMATION]

# SAFETY INFORMATION

SUPPLEMENTAL RESTRAINT SYSTEM (SRS) PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "Air Bag" and "Belt Pre-Tensioner"



#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- Do not use electrical test equipment on any circuit related to the SRS. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

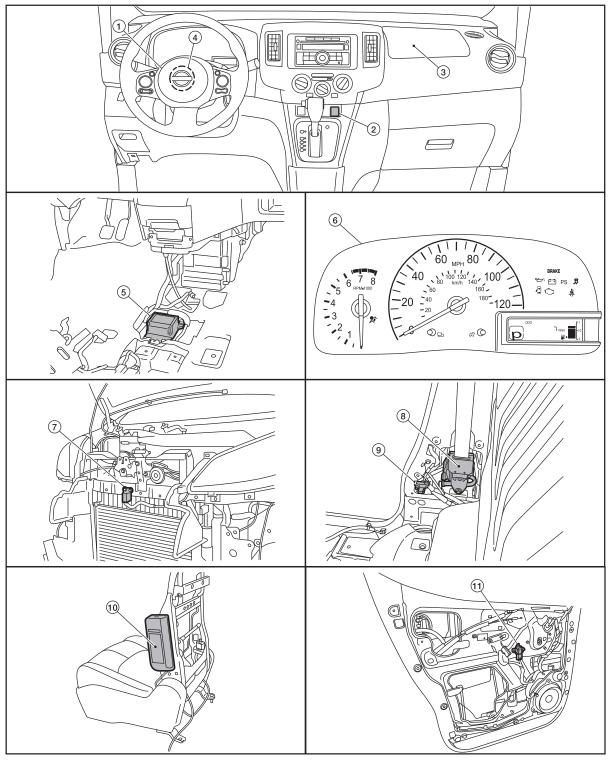
**Precautions When Using Power Tools (Air or Electric) and Hammers** 



#### **WARNING:**

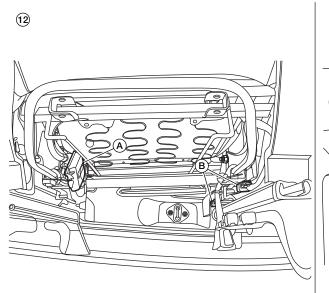
- When working near the Air bag Diagnosis Sensor Unit or other Air bag System sensors with the
  ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s)
  with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly
  causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

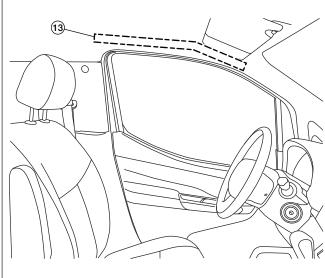
#### SUPPLEMENTAL RESTRAINT SYSTEM (SRS) COMPONENT LOCATIONS



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# SUPPLEMENTAL RESTRAINT SYSTEM (SRS) COMPONENT LOCATIONS [SAFETY INFORMATION]





AAZIA0234ZZ

- 1. Driver air bag module
- 3. Front passenger air bag module
- 5. Air bag diagnosis sensor unit (view with center console removed)
- 7. Crash zone sensor (view with front grille removed)
- 9. Front side air bag satellite sensor LH (RH similar)
- 11. Front door satellite sensor LH (view with front door finisher LH removed) (RH similar)
- 13. LH side front curtain air bag module (RH similar)

- 2. Passenger air bag OFF indicator
- 4. Spiral cable
- 6. Instrument Cluster (SRS warning light)
- 8. Front LH seat belt pre-tensioner (RH similar) (view with lower center pillar cover removed)
- 10. Front LH side air bag module (RH similar)
- 12. A. Occupant classification control unit
  - B. Occupant classification system sensor

#### **BBG**

#### OCCUPANT CLASSIFICATION SYSTEM



#### **WARNING:**

After removal and installation of the front passenger seat, a zero point reset function must be performed by a Nissan dealer using a special tool. If zero point reset is not performed, the occupant classification system may not operate normally which may increase the risk of serious injury or death in a collision.



#### **WARNING:**

Do not disturb or modify the front passenger seat wiring. Failure to follow this instruction may cause incorrect operation of the occupant classification system and front passenger air bag or system failure and may increase the risk of serious injury or death in a collision.

The front passenger seat is equipped with seat weight sensors as part of the supplemental restraints occupant classification system. The occupant classification sensors (weight sensors) are on the seat cushion frame under the front passenger seat and are designed to detect an occupant and objects on the seat. The front passenger air bag status lamp is illuminated when the system is disabled. For occupant classification system and front passenger air bag operation, refer to the Owner's Manual. For repair of the front passenger seat, occupant classification system, air bags or if an air bag warning lamp is illuminated, refer to a Nissan dealer. For seat mounting and fastener torque specifications, refer to Seat Mounting Holes (BBG-41).

#### FRONT AIR BAG DEPLOYMENT ZONES

[SAFETY INFORMATION]

#### FRONT AIR BAG DEPLOYMENT ZONES

#### FRONT AIR BAG MODULE LOCATIONS



#### **WARNING:**

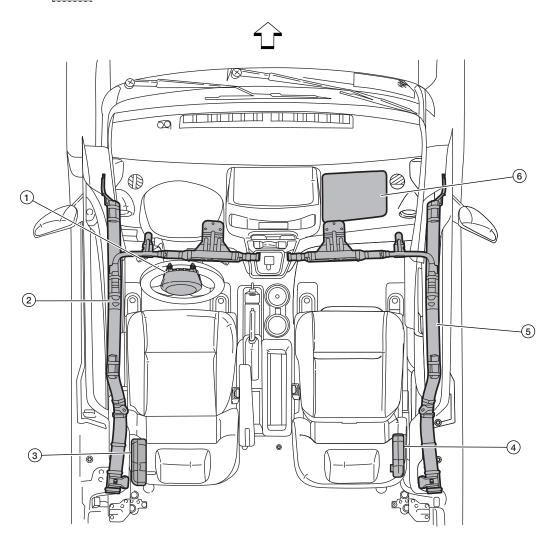
Modifications must not interfere with air bag modules or deployment zones. Damage to air bag modules and objects placed within air bag deployment zones may cause serious personal injury or death.

#### **NOTE:**

Do not add accessory items that, when installed, will interfere with the installed position of the air bag or the zones of the deploying air bags.

#### Front Air Bag Modules — Overhead View

= Air Bag Module Locations (No modifications in these areas.)



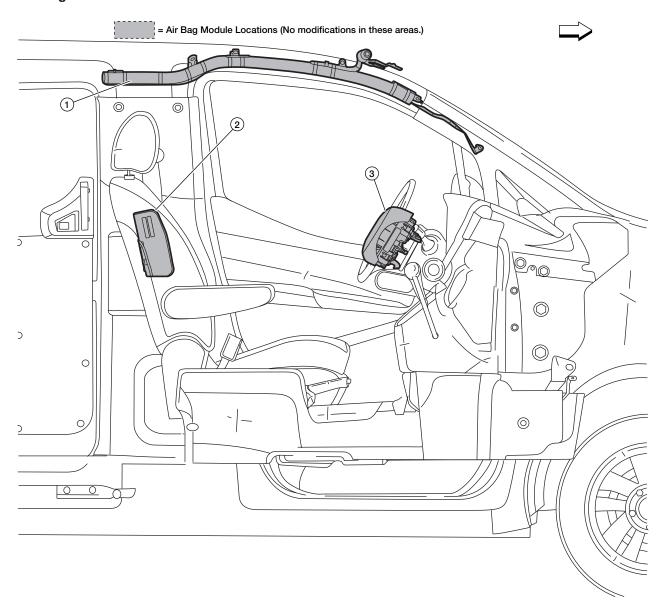
AAZIA0335GB

: Front of vehicle.

- 1. Driver air bag module
- 2. Side curtain air bag module, driver
- 3. Side air bag module, driver

- 4. Side air bag module, passenger
- 5. Side curtain air bag module, pas- 6. Front passenger air bag module senger

#### Front Air Bag Modules — Driver Side

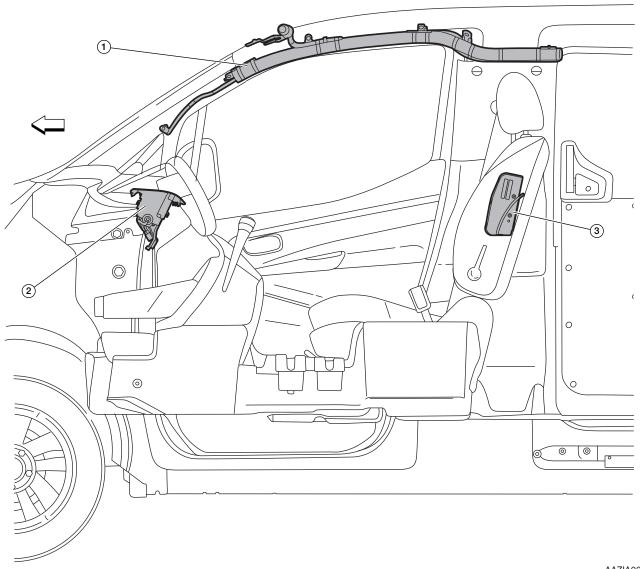


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- : Front of vehicle.
- 1. Side curtain air bag module (located behind LH side of headlining and across windshield header)
- 2. Side air bag module (located at outboard side of driver seatback)
- 3. Driver air bag module (located in steering wheel)

#### Front Air Bag Modules — Passenger Side

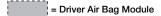
= Air Bag Module Locations (No modifications in these areas.)

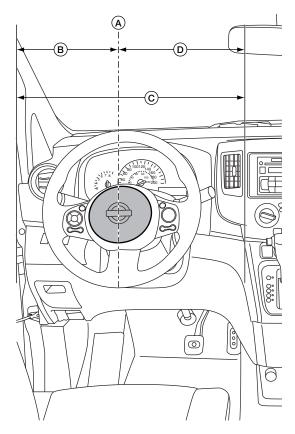


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- ☐: Front of vehicle.
- 1. Side curtain air bag module (located behind RH side of headlining and across windshield header)
- 2. Front passenger air bag module (located in RH side of instrument panel)
- 3. Side air bag module (located at outboard side of passenger seat-back)

#### **Driver Air Bag Deployment Width**





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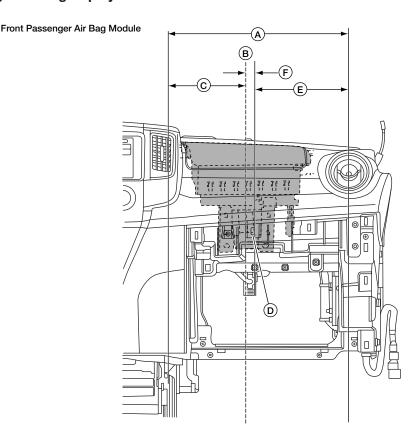
A. Center of the driver air bag module housing

B. 267.5 mm (10.53 in)

C. Maximum lateral projection of the deployed driver air bag 535 mm (21.06 in)

D. 267.5 mm (10.53 in)

#### Front Passenger Air Bag Deployment Width



AAZIA0344GB

deployed front passenger air bag 475 mm (18.7 in)

D. Reference point: glove box striker inboard fastener

A. Maximum lateral projection of the B. Center of front passenger air bag module housing

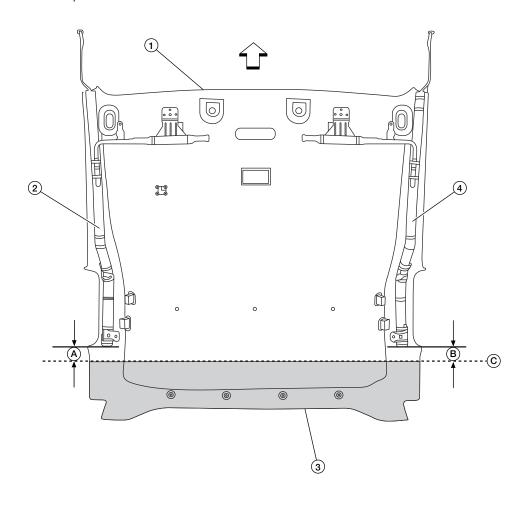
E. 199 mm (7.83 in)

C. 237.5 mm (9.35 in)

F. 38.5 mm (1.52 in)

#### HEADLINING CUT — FRONT SIDE CURTAIN AIR BAGS CLEARANCE FOR BULKHEAD INSTALLATION

Overhead cutaway view with roof panel removed.



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☐: Front of vehicle.

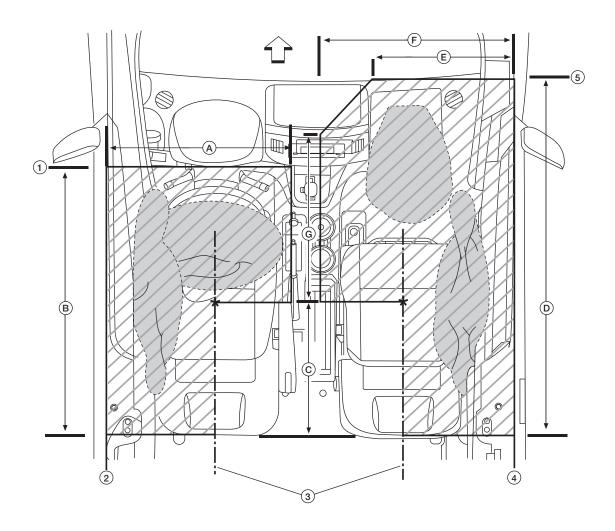
- 1. Headlining
- 4. Passenger side curtain air bag module
- C. Headlining cut line (50 mm [1.97 in] behind rear edge of side curtain air bag module's rolled material)
- 2. Driver side curtain air bag module
- A. 50 mm (1.97 in)

- 3. Portion of headlining to be cut off and discarded
- B. 50 mm (1.97 in)

#### **AIR BAG DEPLOYMENT KEEP-OUT ZONES**

#### Front Air Bag Keep-Out Zones — Overhead View

= Air Bag Deployment Keep-out Zones (No modifications in these areas.)
= Air Bag Inflation Zones



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: Front of vehicle.

- \* Center of seat
- 1. Reference point: instrument panel edge
- 4. Reference point: door glass trim edge
- B. 1,050 mm (41.34 in)
- E. 580 mm (22.83 in)

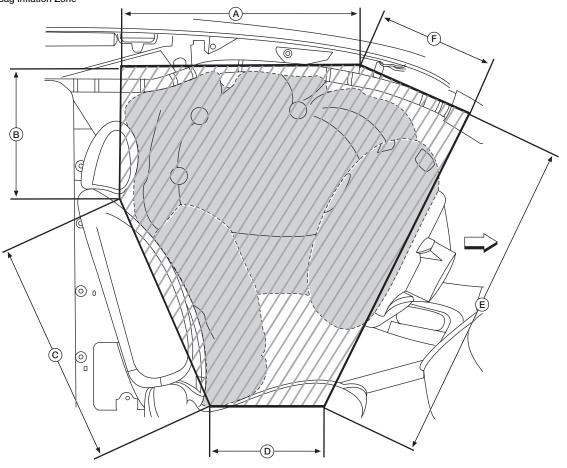
- 2. Reference point: door glass trim edge
- 5. Reference point: instrument panel seam
- C. 500 mm (19.69 in)
- F. 732.1 mm (28.82 in)

- 3. Reference point: seat center lines
- A. 735 mm (28.94 in)
- D. 1,415 mm (55.71 in)
- G. 651 mm (25.63 in)

#### Front Air Bag Keep-Out Zone — Driver Side View

= Air Bag Deployment Keep-out Zone (No modifications in this area.)

= Air Bag Inflation Zone



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☐: Front of vehicle.

A. 635 mm (25 in)

D. 405 mm (15.94 in)

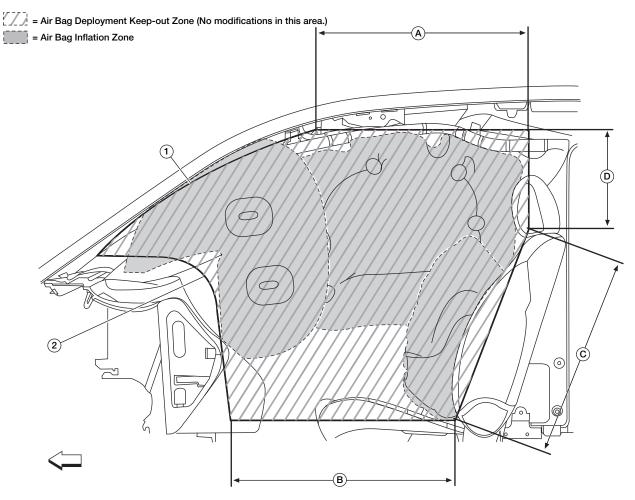
B. 510 mm (20.08 in)

E. 915 mm (36.02 in)

C. 685 mm (26.97 in)

F. 355 mm (13.98 in)

#### Front Air Bag Keep-Out Zone — Passenger Side View



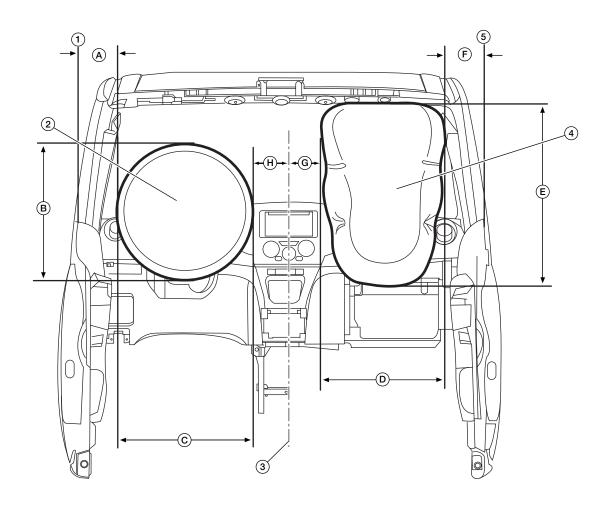
AAZIA0359GB

☐: Front of vehicle.

- 1. Reference point: zone follows windshield surface
- B. 405 mm (15.94 in)
- 2. Reference point: zone follows instrument panel surface contour
- C. 685 mm (26.97 in)
- A. 635 mm (25.00 in)
- D. 510 mm (20.08 in)

#### **INFLATED AIR BAG ZONE DIMENSIONS**

#### **Driver and Passenger Air Bag Inflation Zones — Forward View**

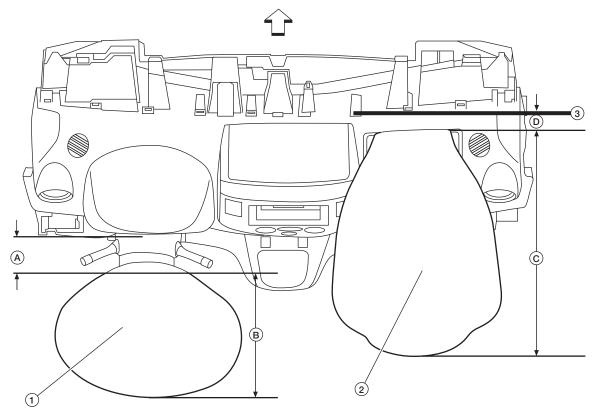


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- 1. Reference point: door glass trim edge
- 4. Maximum inflated front passenger air bag
- B. 535 mm (21.06 in)
- E. 690 mm (27.17 in)
- H. 125 mm (4.92 in)

- 2. Maximum inflated driver air bag
- 5. Reference point: door glass trim edge
- C. 535 mm (21.06 in)
- F. 150 mm (5.91 in) between door glass trim edge and air bag.
- 3. Reference point: vehicle center line
- A. 150 mm (5.91 in) between door glass trim edge and air bag.
- D. 475 mm (18.70 in)
- G. 120 mm (4.72 in)

#### Front Air Bag Inflation Zones — Overhead View

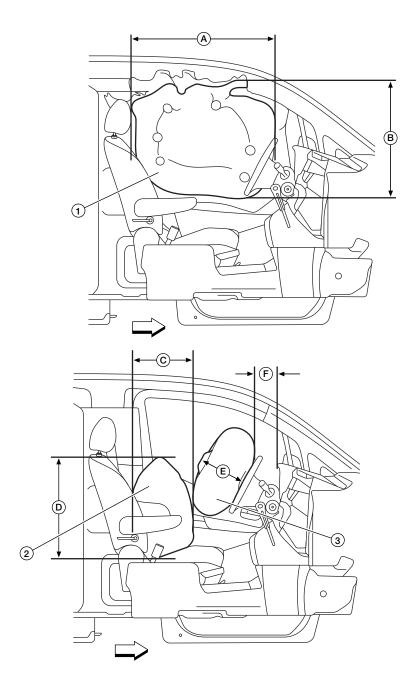


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- ☐: Front of vehicle.
- 1. Maximum inflated driver air bag
- A. 110 mm (4.33 in) between instrument panel and air bag.
- D. 40 mm (1.57 in)

- 2. Maximum inflated front passenger air bag
- B. 340 mm (13.39 in)
- 3. Reference point: instrument panel seam
- C. 645 mm (25.39 in)

#### Front Air Bag Inflation Zones — Driver Side View



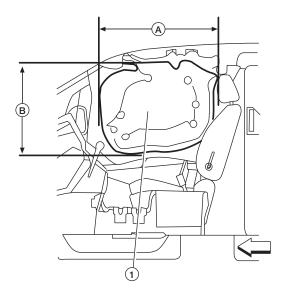
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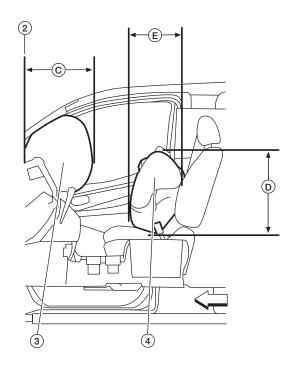
: Front of vehicle.

- 1. Maximum inflated side curtain air bag
- A. 760 mm (29.92 in)
- D. 550 mm (21.65 in)
- 2. Maximum inflated side air bag
- B. 750 mm (29.53 in)
- E. 200 mm (7.87 in)

- 3. Maximum inflated driver air bag
- C. 350 mm (13.78 in)
- F. 110 mm (4.33 in) between instrument panel and air bag.

#### Front Air Bag Inflation Zones — Passenger Side View



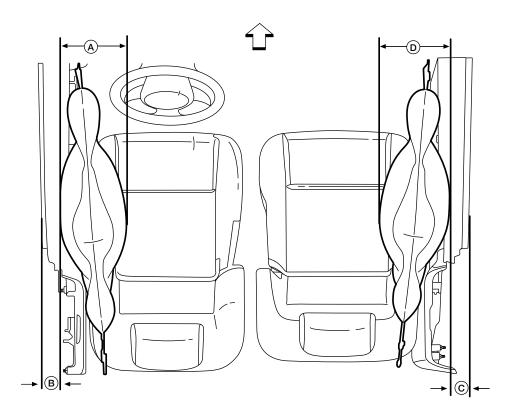


AAZIA0257ZZ

☐: Front of vehicle.

- 1. Maximum inflated side curtain air bag
- 4. Maximum inflated side air bag
- C. 645 mm (25.39 in)
- 2. Front edge of front passenger air bag module
- A. 760 mm (29.92 in)
- D. 550 mm (21.65 in)
- 3. Maximum inflated front passenger air bag
- B. 750 mm (29.53 in)
- E. 350 mm (13.78 in)

#### Side Curtain Air Bag Inflation Zones — Overhead View



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☐: Front of vehicle.

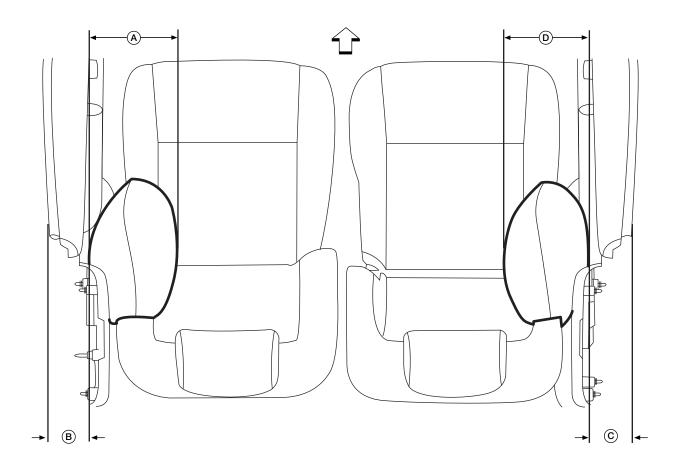
A. 210 mm (8.27 in)

D. 210 mm (8.27 in)

B. 60 mm (2.36 in) between door glass trim edge and air bag.

C. 60 mm (2.36 in) between door glass trim edge and air bag.

#### Side Air Bag Inflation Zones — Overhead View



AAZIA0261ZZ

☐: Front of vehicle.

A. 200 mm (7.87 in)

D. 200 mm (7.87 in)

B. 115 mm (4.53 in) between door glass trim edge and air bag.

C. 115 mm (4.53 in) between door glass trim edge and air bag.

#### **ALTERED VEHICLES**

# Safety / Emissions Certification Labels for Altered Vehicles

#### USA:

A person or company who alters a previously certified vehicle before the first purchase by the final customer in such a manner that its stated weight ratings are revised, is required by Federal Regulation (49 CFR Part 567.7) to affix an Altered Vehicle Certification Label in addition to the FMVSS and CMVSS Certification Label. The label must be affixed to the vehicle in the manner and form described in 49 CFR Part 567.4:

- The label shall, unless riveted, be permanently affixed in such a manner that it cannot be removed without destroying or defacing it.
- The label shall be affixed to either the hinge pillar, B-pillar, or the door edge that meets the door-latch post next to the driver's seating position or, if none of these locations is practicable, to the left side of the instrument panel (other permissible locations are also specified in 49 CFR Part 567.4).
- The lettering on the label shall be of a color that contrasts with the background of the label.
- The label shall contain the required statements in the English language and lettered in block capitals and numerals not less than three thirty-seconds of an inch high.
- The lettering shall be permanent. If typed or written, a protective clear cover may be necessary to prevent information from being wiped off.
- Label must not cover or obscure the FMVSS or CMVSS Certification Label.

#### Canada:

"Alterers" of motor vehicles are required to affix a permanent label on vehicles that they manufacture bearing a statement of compliance as provided by Section 9 of the Canadian Motor Vehicle Safety Regulations. The vehicle alterer should affix a corporate label containing information shown on this page.

- Insert the name of the company that altered the vehicle.
- Insert the month and year during which the alteration of the vehicle was completed.
- Insert a drawing of the National Safety Mark which includes their unique manufacturer number.
- Insert revised GVWR or PNBV capacities in kilograms of the vehicle as altered, where they differ from those shown on the original certification label.
- Insert the GAWR/PNBEs of the vehicle as altered, where they differ from those shown on the original certification label. Also, include the tire size, rim size and tire inflation pressure.
- Insert the vehicle type stated on the safety standard certification label provided by NISSAN. The type of vehicle, in both official languages, or the word "TYPE" along with one of the following abbreviations, namely:
  - "AT/PA" to refer to an auto transporter,
  - "ATV/VTT" to refer to an all-terrain vehicle,
  - "B/A" to refer to a bus.
  - "BT/RA" to refer to a bus trailer,
  - "CD/CCC" to refer to a C-dolly,
  - "CMC/MCC" to refer to a competition motorcycle,
  - "LDD/CRC" to refer to a load divider dolly,
  - "MH/AC" to refer to a motor home,
  - "MC" to refer to a motorcycle,
  - "MPV/VTUM" to refer to a multi-purpose passenger vehicle,
  - "RUM/MUR" to refer to a restricted-use motorcycle,
  - "SB/AS" to refer to a school bus,
  - "TRA/REM" to refer to a trailer,
  - "TCD/CDC" to refer to a trailer converter dolly,
  - "TRU/CAM" to refer to a truck, and
  - "TT/CT" to refer to a truck tractor.

#### **ALTERED VEHICLES**

#### [SAFETY INFORMATION]

The label must meet the following requirements as described in Section 9:

- Shall be permanently attached.
- Shall be affixed adjacent to the original compliance label required by Section 6.
- The lettering of the label shall be clear, indelible, indented, or embossed, or of a color that contrasts with the background color of the label, and in block capitals and numerals not less than 2.0 mm (0.1 in) high.
- The label shall be permanently affixed to the same surface as that to which the FMVSS or CMVSS label is affixed.

**BBG** 

#### **BRAKE COMPLIANCE GUIDELINES**

[SAFETY INFORMATION]

#### BRAKE COMPLIANCE GUIDELINES

#### **Brake Compliance Guidelines (FMVSS and CMVSS 105)**

Any changes to the vehicle must still comply with FMVSS and CMVSS 105 allowing for the following provisions:

- No alterations, modifications or replacements are made to the following systems:
  - parking brake
  - anti-lock brakes
  - engine vacuum
  - steering
  - wheels or tires
  - brakes
  - indicator lamps and wiring
  - brake system reservoir labeling
  - suspension ride height or spring rate
- The vehicle is re-balanced by the addition of an equivalent weight if components are permanently removed.
- The applicable GAWRs and GVWR weights are not exceeded.
- The applicable center of gravity limitations are met.
- The vertical distance from the ground to the completed vehicle center of gravity should not exceed 1,219.2 mm (48 in) at the Gross Vehicle Weight Rating (GVWR).

#### **FMVSS AND CMVSS REGULATION LIST**

[SAFETY INFORMATION]

#### FMVSS AND CMVSS REGULATION LIST

#### **Standards**

For FMVSS standards, refer to the following website:

http://www.nhtsa.gov/staticfiles/rulemaking/pdf/FMVSS-QuickRefGuide-HS811439.pdf

For CMVSS standards, refer to the following website:

http://www.tc.gc.ca/eng/acts-regulations/regulations-crc-c1038.htm

**BBG** 

#### **PRECAUTIONS**

#### **PRECAUTIONS**

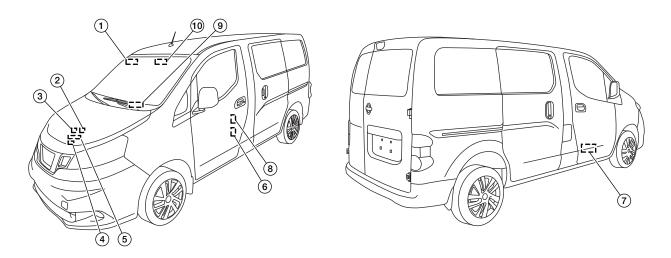
#### **Precautions For Electrical CAN (Controller Area Network) System**

- Do not modify the CAN system.
- For additional information and identification of CAN system, refer to the Service Manual or contact NISSAN Commercial and Fleet Aftermarket Engineering (248) 488–4862.

# MODEL INFORMATION

#### LABEL INFORMATION

#### **Identification Number**



AAZIA0154ZZ

- 1. SRS air bag warning label
- 4. Brake fluid warning label
- 7. Vehicle identification number (Chassis number) (located near right side of passenger seat)
- 10. SRS air bag warning label

- 2. Air conditioning specification label
- 5. Emission control information label
- 8. Tire and loading information label
- 3. Transmission fluid specification label
- 6. FMVSS/CMVSS Certification Label
- 9. Vehicle identification number (VIN) plate

#### **VEHICLE CODING INFORMATION**

#### **Vehicle Identification**

**Vehicle Identification Number Arrangement** 

Position	Character	Qualifier	Definition
1			0110 14
2	3N6	Manufacturer	3N6: Mexico produced NISSAN Truck
3			TVIOO/TV Truck
4	С	Engine type	C: MR20DE
5	Mo	Vehicle line	M0: Model Code M20
6	IVIO		
7	K	Body type	K: Cargo Van
8	N	Gross vehicle weight rating	N: 2 Seating Capacity, 2WD, Class C + Driver and Passenger 3-Point Manual Belts, Frontal Air Bags, Side Air Bags and Curtain Side Air Bags
9	*	Check digit	(0 to 9 or X) The code for the check digit is deter- mined by a mathematical computation.
10	D	Model year	D: 2013
11	К	Manufacturing plant	K: CIVAC (Cuernavaca, Mexico)
12			
13			Chassis number
14	XXXXXX	Vehicle serial number	
15	XXXXX	venicie seriai number	
16			
17			

# **CLASS**

# **Model Variation**

Prefix and suffix designations:

Position	Character	Qualifier	Definition	
1	Υ	Body type	Y: Cargo Van	
2	DR	Engino	DR: MR20DE (2.0L)	
3	DK	Engine	DR. MRZODE (2.0L)	
4	A	Axle	A: 2WD	
5	L	Drive	L: LH	
6	D	Grade	D: S	
0	D	Grade	G: SV	
7	V	Transmission	V: CVT	
8				
9	M20	Model	M20: NV200	
10				
11	Е	Intake	E: EGI	
10	11	7	N: Canada	
12	U	Zone	U: USA	
13	A	Equipment	A: Std. Equipment	
14				
15				
16	XXXXX	Option Codes	Option Codes	
17				
18				

Body	Engine	Transmission	Destination	Grade	Equipment	Model
	MR20DE		LICA	SV	NV200	YDRALGV-EUA
Carra Van		CVT	USA	S	NV200	YDRALDV-EUA
Cargo Van	(2.0L)		DL)	0	SV	NV200
			Canada	S	NV200	YDRALDV-ENA

#### **GVWR CAPACITY**

### **GVWR CAPACITY**

Gross Vehicle Weight Rating (GVWR) is the weight specified by NISSAN as the maximum allowable weight for the loaded vehicle.

The GVW must not exceed the Gross Vehicle Weight Rating (GVWR) shown on the FMVSS/CMVSS Certification Label. The GVW equals the combined weight of the unloaded vehicle, passengers, luggage and any other optional equipment. In addition, front or rear GAW must not exceed the Gross Axle Weight Rating (GAWR) shown on the FMVSS/CMVSS Certification Label.

# **VAN OPTION MASS**

### USA

OPTION PACKAGE DESCRIPTION	kg (lb)			
OPTION PACKAGE DESCRIPTION	Total	Front	Rear	
Back Door Glass Package:				
<ul> <li>Back door glass with privacy</li> <li>Back door glass defroster</li> <li>Interior rear view mirror</li> </ul>	3.2 (7)	-0.77 (-1.7)	3.97 (8.7)	
Bluetooth Hands Free Phone:				
<ul><li>Bluetooth hands free phone</li><li>MP3 capability in audio unit</li></ul>	1.15 (2.5)	0.94 (2)	0.21 (0.5)	
Technology Package (SV-grade Only):				
<ul> <li>5.8 in. display</li> <li>SD based navigation system</li> <li>Rear view camera</li> <li>Bluetooth hands free phone</li> <li>SiriusXM Satellite Radio</li> <li>MP3 playback capability</li> <li>USB input</li> </ul>	2.83 (6.2)	2.01 (4.4)	0.82 (1.8)	
Exterior Appearance Package (SV-grade Only):  Body colored front and rear bumpers Body colored door handles Body colored outside mirrors Full size wheel cover Chrome grille	2.0 (4.4)	1.10 (2.4)	0.90 (2)	
Cruise Control Package (S-grade Only):				
<ul> <li>Cruise control with steering wheel controls</li> </ul>	0.09 (0.19)	0.07 (0.15)	0.02 (0.04)	

### Canada

OPTION PACKAGE DESCRIPTION	kg (lb)			
OPTION PACKAGE DESCRIPTION	Total	Front	Rear	
Back Door Glass Package:				
<ul><li>Back door glass with privacy</li><li>Back door glass defroster</li><li>Interior rear view mirror</li></ul>	3.2 (7)	-0.77 (-1.7)	3.97 (8.7)	
Bluetooth Hands Free Phone (S-grade				
<ul><li>Only):</li><li>Bluetooth hands free phone</li><li>MP3 capability in audio unit</li></ul>	1.15 (2.5)	0.94 (2)	0.21 (0.5)	
Technology Package (SV-grade Only):				
<ul> <li>5.8 in. display</li> <li>SD based navigation system</li> <li>Rear view camera</li> <li>SiriusXM Satellite Radio</li> <li>MP3 playback capability</li> <li>USB input</li> <li>Memo: Standard Bluetooth on SV-grade</li> </ul>	1.68 (3.7)	1.07 (2.4)	0.61 (1.3)	
Spash Guards:	0.55 (1.0)	0.04 (0.5)	0.21 (0.7)	
<ul> <li>Front and rear splash guards</li> </ul>	0.55 (1.2)	0.24 (0.5)	0.31 (0.7)	
SV Wheel Covers:				
<ul> <li>Wheel covers</li> </ul>	2.0 (4.4)	1.10 (2.4)	0.90 (2)	

# **DIMENSIONS**

### **Resource Chart**

NOTE:

All specifications are the same for USA and Canada except where indicated.

Item	Grade →	S	SV
Final Drive Ratio	_	5.407 : 1	5.407 : 1
Base Curb Weight - Total	<b>USA</b> kg (lbs) →	1,475.3 (3,255)	1,476.5 (3,255)
	Canada kg (lbs) →	1,475.8 (3,255)	1,477.7 (3,260)
Base Curb Weight - Rear	<b>USA</b> kg (lbs) →	576.9 (1,270)	577.3 (1,275)
	Canada kg (lbs) →	577 (1,270)	577.6 (1,275)
Base Curb Weight - Front	<b>USA</b> kg (lbs) →	898.4 (1,980)	899.2 (1,985)
	Canada kg (lbs) →	898.8 (1,980)	900.2 (1,985)
Maximum GVWR - Max. Pass.,	<b>USA</b> kg (lbs) →	2,155 (4,751)	2,155 (4,751)
Plus Options and Cargo	Canada kg (lbs) →	2,155 (4,751)	2,155 (4,751)
Max. Tires and Load Rating @ 375kPa (55 psi) - Rear	kg (lbs)	185/60R15C * 94/92T 670 (1,477)	185/60R15C <b>*</b> 94/92T 670 (1,477)
Max. Tires and Load Rating @ 375kPa (55 psi) - Front	kg (lbs)	185/60R15C * 94/92T 670 (1,477)	185/60R15C <b>*</b> 94/92T 670 (1,477)
Maximum Payload	<b>USA</b> kg (lbs) →	680 (1,500)	676 (1,491)
Maximum Payloau	Canada kg (lbs) →	680 (1,500)	680 (1,500)
Rear GAWR	kg (lbs)	1,150 (2,535)	1,150 (2,535)
Front GAWR	kg (lbs)	1,040 (2,293)	1,040 (2,293)
Roof Load Weight Rating	kg (lbs)	100 (220.5)	101 (220.5)
Maximum Cargo Width at Wheel Wells (BBG-47)	mm (in)	1,219.4 (48)	1,219.4 (48)
<b>Maximum Cargo Width at Floor</b> (BBG-47)	mm (in)	1,480 (58.3)	1,480 (58.3)
Maximum Cargo Height (BBG-47)	mm (in)	1,330 (52.4)	1,330 (52.4)
Maximum Cargo Length at Floor - Behind Seat (BBG-47)	mm (in)	2,103 (82.8)	2,103 (82.8)
Maximum Cargo Length- Behind Seat Back in Upright Position (BBG-47)	mm (in)	2,262 (89.1)	2,262 (89.1)
Cargo Volume	$m^3$ (ft $^3$ )	3.474 (122.7)	3.474 (122.7)
Vehicle Height (BBG-69)	mm (in)	1,871.7 (73.7)	1,871.7 (73.7)
Wheelbase (BBG-69)	mm (in)	2,925 (115.2)	2,925 (115.2)
Wheel Type (BBG-164)		Steel	Steel
Front Tread Width	mm (in)	1,525 (60)	1,525 (60)
Rear Tread Width	mm (in)	1,520 (59.8)	1,520 (59.8)

Item	<b>Grade</b> →	S	SV
Cargo Area Liftover Height (BBG-69)	mm (in)	535.7 (21)	535.7 (21)
Slide Door Opening Width - Maximum Clearance, Without Door (BBG-63)	Without Door Seal and Interior Trim mm (in) →	818 (32.2)	818 (32.2)
DOOI (BBC-03)	With Door Seal and Interior Trim mm (in) →	812 (32.0)	812 (32.0)
Slide Door Opening Width - Maximum Clearance, With Door (BBG-65)	Without Door Seal and Interior Trim mm (in) →	624 (24.6)	624 (24.6)
(550 33)	With Door Seal and Interior Trim mm (in) →	622 (24.5)	622 (24.5)
Slide Door Opening Height - Maximum Clearance (BBG-65)	Without Door Seal and Interior Trim mm (in) →	1,181 (46.5)	1,181 (46.5)
	With Door Seal and Interior Trim mm (in) →	1,168 (46.0)	1,168 (46.0)
Vehicle Length (BBG-69)	mm (in)	4,732.5 (186.3)	4,732.5 (186.3)
Front Overhang (BBG-69)	mm (in)	968.2 (38.1)	968.2 (38.1)
Rear Overhang (BBG-69)	mm (in)	839.3 (33)	839.3 (33)
Rear Door Opening Height - Maximum Clearance (BBG-67)	mm (in)	1,238 (48.75)	1,238 (48.75)
Rear Door Opening Width - Maximum Clearance (BBG-67)	mm (in)	1,260 (49.6)	1,260 (49.6)
Vehicle Width - Without Mirrors (BBG-69)	mm (in)	1,729.5 (68.1)	1,729.5 (68.1)
Vehicle Width - With Mirrors (BBG-68)	mm (in)	2,010 (79.1)	2,010 (79.1)
Vehicle Width - With Mirrors Folded (BBG-68)	mm (in)	1,868 (73.54)	1,868 (73.54)
Ground Clearance - With Vehicle Parked	mm (in)	Front/Rear - 164 (6.5)	Front/Rear - 211 (8.3)
Ground Clearance - With Vehicle Running	mm (in)	Front/Rear - 140 (5.5)	Front/Rear - 165 (6.5)
Step-in Height - Front	mm (in)	376.8 (14.8)	376.8 (14.8)
Step-in Height - Slide Door	mm (in)	487.1 (19.2)	487.1 (19.2)
Step-in Height - Rear	mm (in)	535.7 (21.1)	535.7 (21.1)

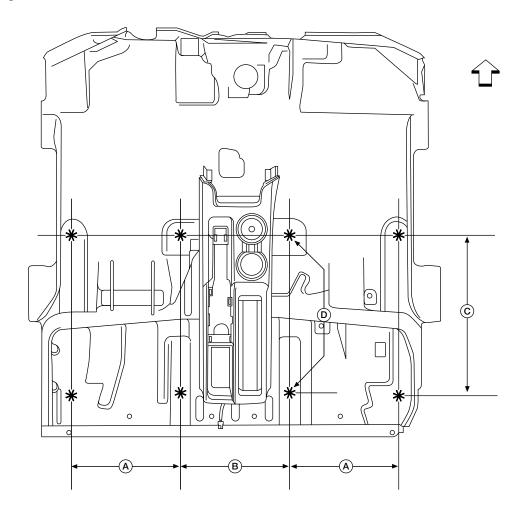
<sup>\*</sup> Use commercial (C) rated tires only. Do not use passenger rated tires. This vehicle is equipped with special high load index 94 tires to carry a payload of up to 1,500 lbs (680 kg) as indicated on the tire information placard. Some aftermarket replacement tires may have lower load index ratings. Using tires with lower load index ratings will reduce the vehicle's maximum payload capacity (for example, tires with load index 84 would reduce maximum payload to 750 lbs [340 kg] and tires with load index 88 would reduce maximum payload to 544 kg [1,200 lbs]).

# **BODY DIMENSIONS**

### PASSENGER COMPARTMENT

**Seat Mounting Holes** 

**Front Seat Mounting Hole Dimensions** 



AAZIA0227ZZ

: Front of vehicle.

A. 380 mm (15.0 in)

B. 375 mm (14.8 in)

C. 560 mm (22.0 in)

D. 550 mm (21.7 in)



### **WARNING:**

After removal and installation of the front passenger seat, a zero point reset function must be performed by a Nissan dealer using a special tool. If zero point reset is not performed, the occupant classification system may not operate normally which may increase the risk of serious injury or death in a collision.



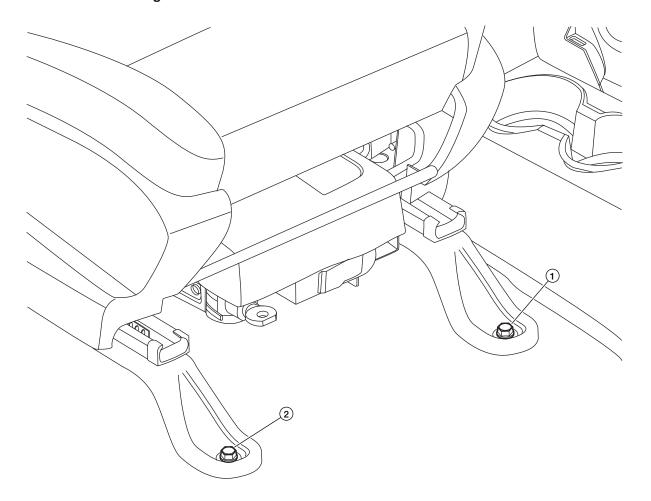
Do not disturb or modify the front passenger seat wiring. Failure to follow this instruction may cause incorrect operation of the occupant classification system and front passenger air bag or system failure and may increase the risk of serious injury or death in a collision.

#### NOTE:

For complete removal and installation procedure of the front seats, refer to the SE section in the service manual. Basic seat installation uses the following sequence:

- 1. Before removing or installing the front seats, turn ignition switch OFF, disconnect both battery terminals and wait at least 3 minutes.
- 2. Place the seat in the vehicle on the mounting stud with the locator pin correctly seated. Make sure there are no foreign objects under the seat, seat belts, pinched wires or carpeting between the seat mounting feet and floor.
- 3. Fully connect the seat electrical connectors and make sure the inboard and outboard seat tracks are positioned evenly and locked in place.
- 4. Install the front outboard seat bolt and hand tighten only.
- 5. Install the front inboard seat bolt and tighten to 40 Nm (30 ft-lb).
- 6. Tighten the front outboard seat bolt to 40 Nm (30 ft-lb).
- 7. Move the seat forward and install the rear inboard seat bolt. Make sure both seat tracks are locked in place and tighten to 40 Nm (30 ft-lb).
- 8. Install the rear outboard seat nut. Tighten to 40 Nm (30 ft-lb) and install the cap.
- 9. Connect the battery.
- 10. For front passenger seat, the zero point reset function must be performed by a Nissan dealer.
- 11. Install all the seat fastener caps.

### **RH Front Seat Front Mounting Hole Location**



AAZIA0147ZZ

1. Inboard center of hole

X: 874.1 mm (34.4 in)

Y: 188.6 mm (7.4 in)

Z: 265.6 mm (10.5 in)

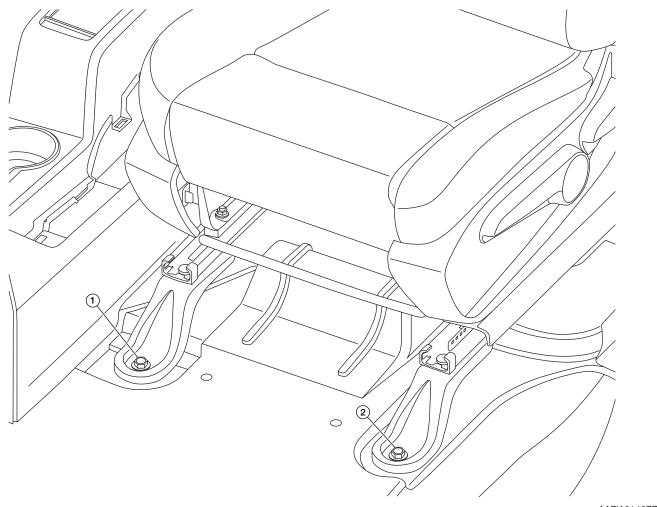
2. Outboard center of hole

X: 874.1 mm (34.4 in)

Y: 568 mm (22.4 in)

Z: 265.6 mm (10.5 in)

### **LH Front Seat Front Mounting Hole Location**



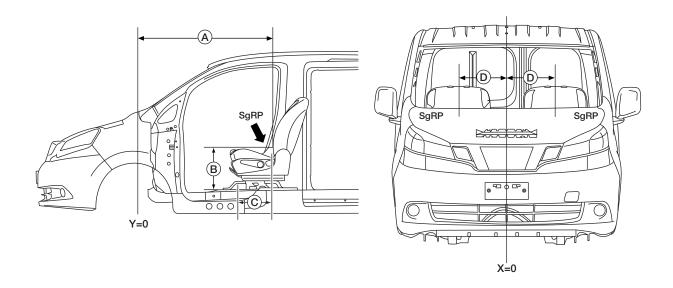
AAZIA0146ZZ

- 1. Inboard center of hole
- X: 874.1 mm (34.4 in)
- Y: -188.6 mm (-7.4 in)
- Z: 265.6 mm (10.5 in)

- 2. Outboard center of hole
- X: 874.1 mm (34.4 in)
- Y: -568 mm (-22.4 in)
- Z: 265.6 mm (10.5 in)

### **Seat Position Diagrams**

# **SgRP Front Seat Dimension**



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### NOTE:

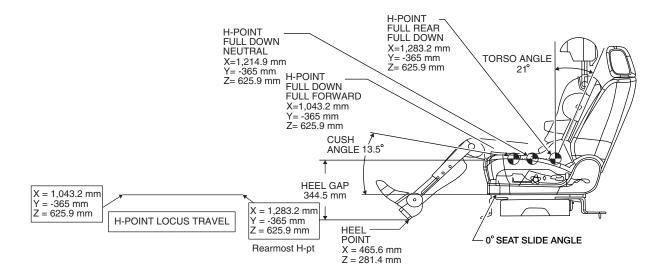
Seat is in full down and back position.

A. 1,429 mm (56.3 in)
D. 365 mm (14.4 in)

B. 403 mm (15.9 in)

C. 464 mm (18.3 in)

#### **LH Manual Track**

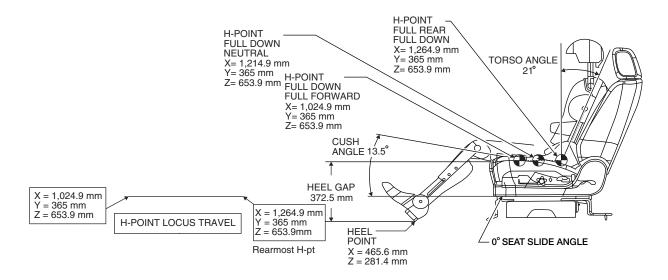


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#### NOTE:

The X, Y, Z values are measured from the front seat front bolt holes.

#### **RH Manual Track**



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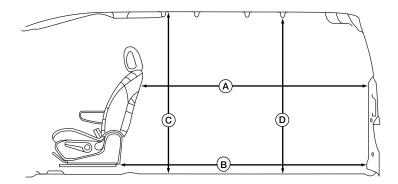
#### NOTE:

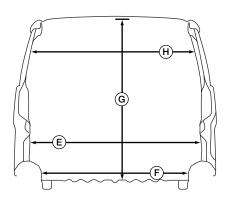
The X, Y, Z values are measured from the front seat front bolt holes.

### CARGO AREA

#### **Interior Dimensions**

#### Overall





AAZIA0149ZZ

A. Length behind seat back in upright position:

rear-most: 2,022 mm (79.6 in) center: 2,144 mm (84.4 in)

• front-most: 2,262 mm (89.1 in)

D. Height at rear wheel center: 1,317 mm (51.9 in)

B. Maximum length at floor behind seat base:

2,103.5 mm (82.8 in)

C. Maximum cargo height:

E. Maximum width at floor:

between slide doors: 1,480 mm (58.3 in)

behind wheel wells: 1,390.8 mm (54.8 in)

1,330 mm (52.4 in)

F. Width at floor between wheel wells:

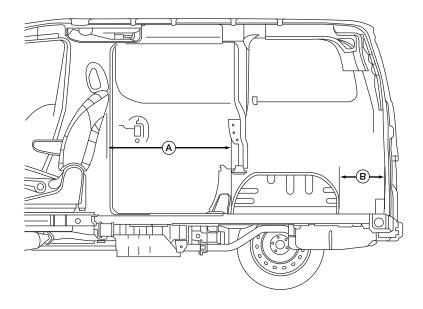
1,219.4 mm (48 in)

G. Maximum height at rear cargo entrance with striker: 1,198 mm (47.2 in)

H. Maximum width at center of window opening area: 1,500 mm (59.1 in)

### **Wheel Well Clearance**

# Cutaway Side View — RH



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### NOTE:

### View from inside of vehicle.

A. Seat position:

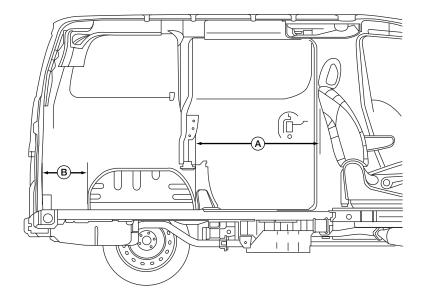
rear-most: 856 mm (33.7 in)

center: 952 mm (37.5 in)

• front-most: 1,096 mm (43.15 in)

B. 296 mm (11.65 in)

### **Cutaway Side View — LH**



AAZIA0150ZZ

#### NOTE:

### View from inside of vehicle.

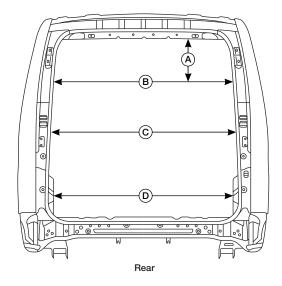
A. Seat position:

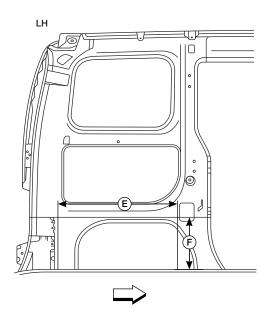
rear-most: 856 mm (33.7 in)center: 952 mm (37.5 in)

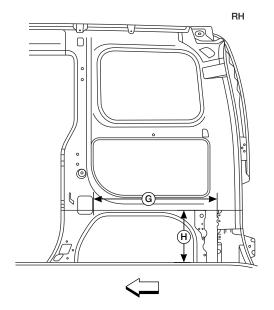
• front-most: 1,096 mm (43.15 in)

B. 296 mm (11.65 in)

### **Cutaway Wheel Well and Rear Views**







AAZIA0296GB

: Front of vehicle.

A. 261.8 mm (10.3 in)

D. 1,260 mm (49.6 in)

G. 785 mm (30.9 in)

B. 1,175 mm (46.3 in)

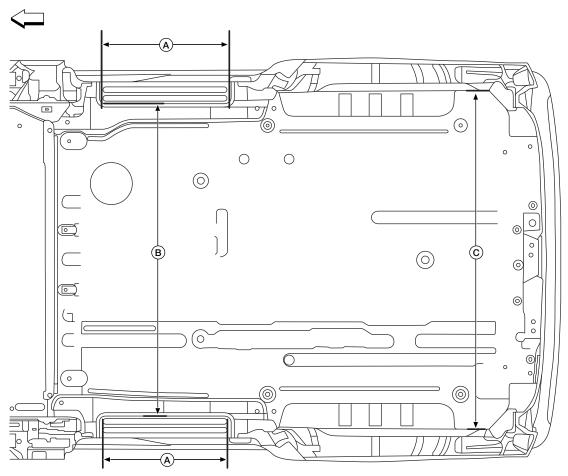
E. 725 mm (28.5 in)

H. 288 mm (11.3 in)

C. 1,250 mm (49.2 in)

F. 271 mm (10.6 in)

# **Cutaway Overhead View**



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: Front of vehicle

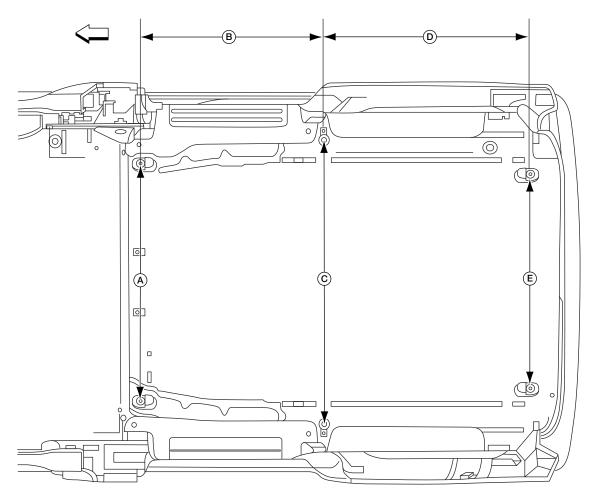
A. 570 mm (22.4 in)

B. 1,323 mm (52.1 in)

C. 1,432 mm (56.4 in)

# **D-Ring Tie-Downs (If Equipped)**

### **Cutaway Overhead View**



AAZIA0229ZZ



# **CAUTION:**

Do not exceed the maximum total D-ring tie down loading of 5,000 N (1,124 lbs).

: Front of vehicle.

\* D-ring tie down location.

A. 1,005 mm (39.6 in)

B. 845 mm (33.3 in)

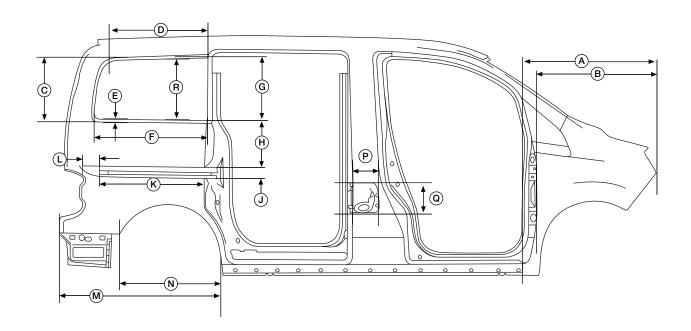
C. 1,275 mm (50.2 in)

D. 817 mm (32.2 in)

E. 1,138 mm (44.8 in)

# SIGN AREA

#### **RH Exterior Dimensions**



AAZIA0151ZZ

A. 918 mm (36.1 in)
D. 713 mm (28.1 in)
G. 450 mm (17.7 in)
K. 723 mm (28.5 in)
N. 693 mm (27.3 in)

R. 440 mm (17.3 in)

B. 825 mm (32.5 in)

E. Inset depth: 18 mm (0.7 in)

H. 300 mm (11.8 in)

L. 114 mm (4.5 in)

P. 180 mm (7.1 in)

C. 408 mm (16.1 in)

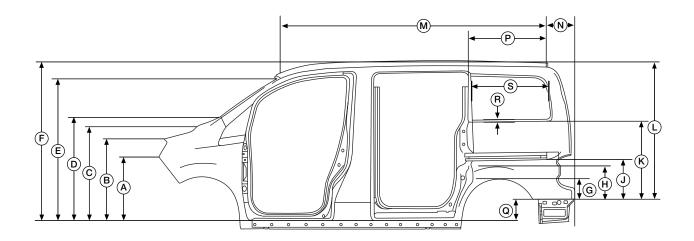
F. 781 mm (30.7 in)

J. 81 mm (3.2 in)

M 1,115 mm (43.9 in)

Q. 210 mm (8.3 in)

#### **LH Exterior Dimensions**



AAZIA0165ZZ

Δ	674	mm	(26	5 in	)
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D. 1,059 mm (41.7 in)

G. 210 mm (8.3 in)

K. 760 mm (29.9 in)

N. 250 mm (9.8 in)

R. Inset depth: 18 mm (0.7)

B. 836 mm (32.9 in)

E. 1,429 mm (56.3 in)

H. 322 mm (12.7 in)

L. 1,330 mm (52.4 in)

P. 785 mm (30.9 in)

S. 783 mm (30.8 in)

C. 987 mm (38.9 in)

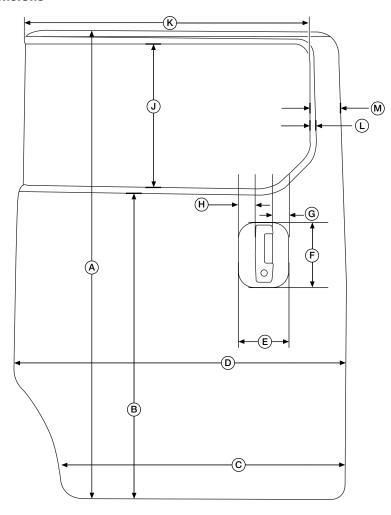
F. 1,587 mm (62.5 in)

J. 383 mm (15.1 in)

M. 2,670 mm (105.1 in)

Q. 258 mm (10.2 in)

#### **RH Slide Door Exterior Dimensions**



AAZIA0166ZZ

A. 1,450 mm (57.1 in)

D. 1,002 mm (39.4 in)

G. Inset depth: 27 mm (1.1 in)

K. 870 mm (34.3 in)

B. 941 mm (37.0 in)

E. 165 mm (6.5 in)

H. Inset depth: 27 mm (1.1 in)

L. Inset depth: 14 mm (0.6 in)

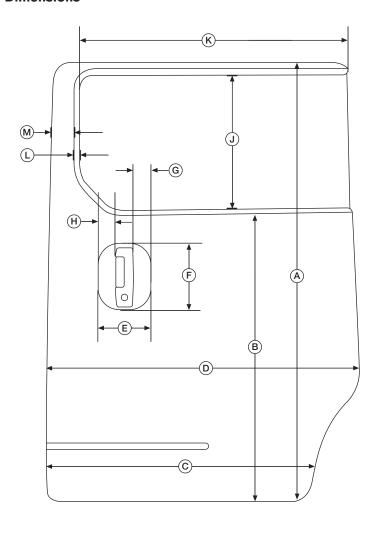
C. 858 mm (33.8 in)

F. 200 mm (7.9 in)

J. 450 mm (17.7 in)

M. 75 mm (3.0 in)

#### **LH Slide Door Exterior Dimensions**



AAZIA0176ZZ

A. 1,450 mm (57.1 in)

D. 1,002 mm (39.4 in)

G. Inset depth: 27 mm (1.1 in)

K. 870 mm (34.3 in)

B. 941 mm (37.0 in)

E. 165 mm (6.5 in)

H. Inset depth: 27 mm (1.1 in)

L. Inset depth: 14 mm (0.6 in)

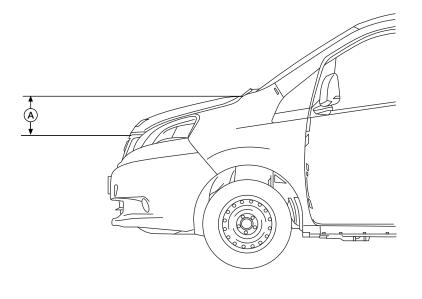
C. 858 mm (33.8 in)

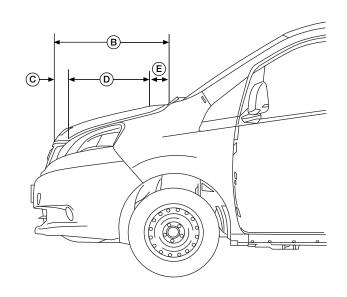
F. 200 mm (7.9 in)

J. 450 mm (17.7 in)

M. 75 mm (3.0 in)

### **Hood Surface Exterior Dimensions**





AAZIA0167ZZ

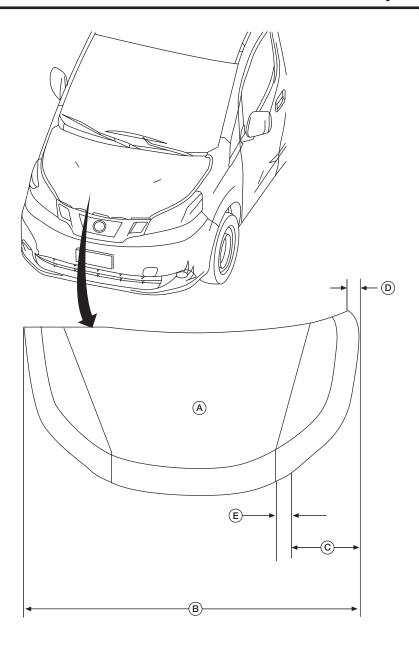
A. 275 mm (10.8 in)

D. 568 mm (22.4 in)

B. 745 mm (29.3 in)

E. 80 mm (3.1 in)

C. 120 mm (4.7 in)



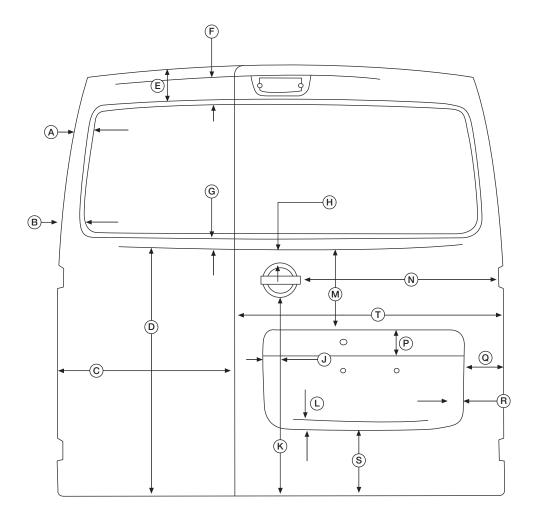
AAZIA0168ZZ

A. Flat surface area: 1.026 m  $^2$  B. 1,479 mm (58.2 in) C. 310 mm (12.2 in) (1,590 in  $^2$ )

D. 55 mm (2.2 in)

E. 140 mm (5.5 in)

### **Back Door Sign Area**



AAZIA0169ZZ

			10	$\sim$	. \	
Α.	50	mm	(2.	O.	ın)	

D. 796 mm (31.3 in)

G. 36 mm (1.4 in)

K. 628 mm (24.7 in)

N. 643 mm (25.3 in)

R. 38 mm (1.5 in)

U. 445 mm (17.5 in)

B. 61 mm (2.4 in)

E. 128 mm (5.0 in)

H. 54 mm (2.1 in)

L. 30 mm (1.2 in)

P. 77 mm (3.0 in)

S. 213 mm (8.4 in)

C. 580 mm (22.8 in)

F. 75 mm (3.0 in)

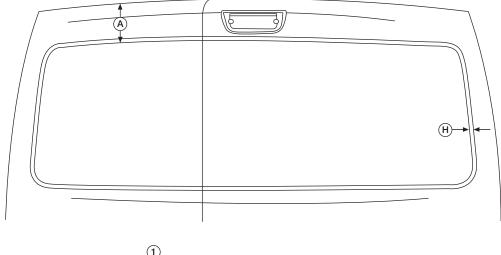
J. 70 mm (2.8 in)

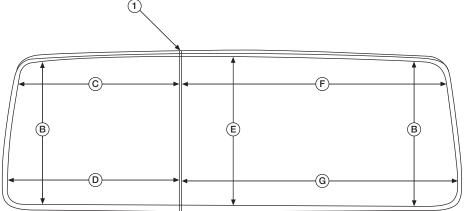
M. 255 mm (10.0 in)

Q. 130 mm (5.1 in)

T. 875 mm (34.4 in)

### **Back Door Window Opening Sign Area**





AAZIA0170ZZ

- 1. Door gap seam
- C. 455 mm (17.9 in)
- F. 750 mm (29.5 in)

- A. 128 mm (5.0 in)
- D. 488 mm (19.2 in)
- G. 782 mm (30.8)

- B. 426 mm (16.8 in)
- E. 438 mm (17.2 in)
- H. Inset depth: 11 mm (0.4 in)

# BBG

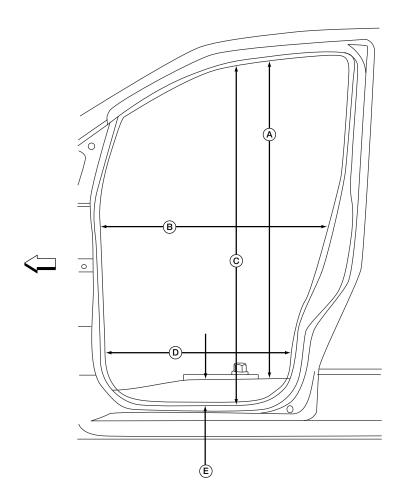
# **PLACARDS**

To find information and regulations about the placards, refer to the following website:

http://www.fmcsa.dot.gov

### **EXTERIOR**

### **Front Door Opening Measurements**



AAZIA0230ZZ

: Front of vehicle.

### **Without Door Seal and Interior Trim**

A. 1,217 mm (47.9 in)

B. 870 mm (34.3 in)

C. 1,175 mm (46.3 in)

D. 715 mm (28.1 in)

E. 88 mm (3.5 in)

### With Door Seal and Interior Trim

A. 1,213 mm (47.8 in)

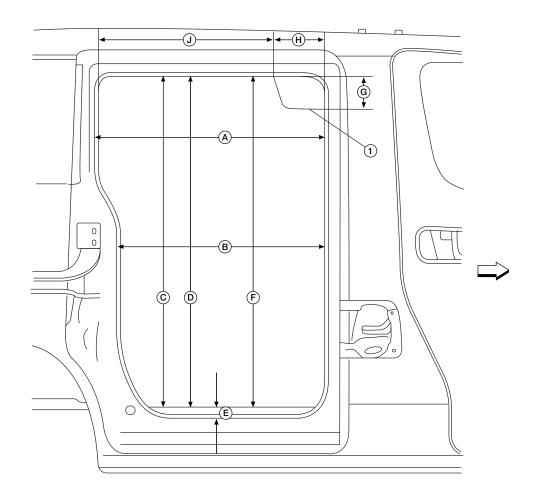
B. 863 mm (34.0 in)

C. 1,164 mm (45.8 in)

D. 706 mm (27.8 in)

E. 78 mm (3.1 in)

### RH Slide Door Opening Measurements — Without Slide Door Installed



AAZIA0187ZZ

: Front of vehicle.

### **Without Door Seal and Interior Trim**

A. 818 mm (32.2 in)	B. 735 mm (28.9 in)	C. 1,181 mm (46.5 in)
	_ , , , ,	

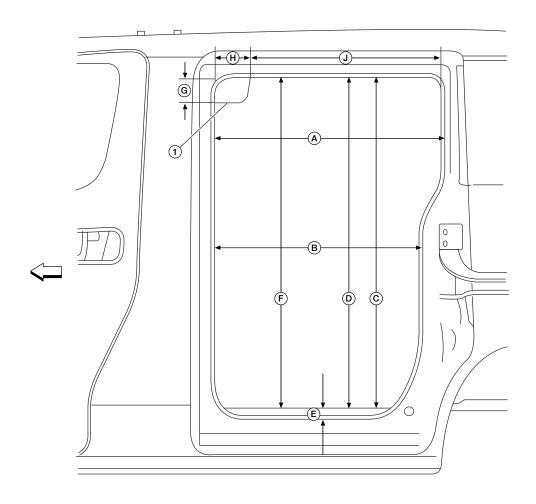
D. 1,181 mm (46.5 in) E. 27 mm (1.06 in) F. 1,181 mm (46.5 in)

### With Door Seal and Interior Trim

1. Headlining	A. 812 mm (32.0 in)	B. 728 mm (28.7 in)
C. 1,168 mm (46.0 in)	D. 1,168 mm (46.0 in)	E. 35 mm (1.37 in)
F. 1,168 mm (46.0 in)	G. 22 mm (0.9 in)	H. 190 mm (7.5 in)

J. 617 mm (24.3 in)

# LH Slide Door Opening Measurements — Without Slide Door Installed



AAZIA0186ZZ

: Front of vehicle.

### **Without Door Seal and Interior Trim**

A. 818 mm (32.2 in)	B. 735 mm (28.9 in)	C. 1,181 mm (46.5 in)
D 1 191 mm (46 5 in)	E 97 mm (1.06 in)	E 1 191 mm (46 5 in)

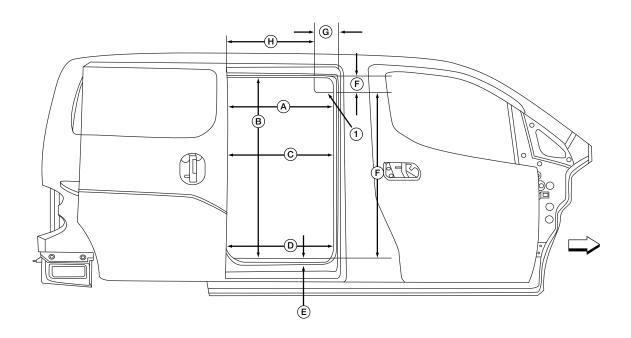
D. 1,181 mm (46.5 in) E. 27 mm (1.06 in) F. 1,181 mm (46.5 in)

### With Door Seal and Interior Trim

1. Headlining	A. 812 mm (32.0 in)	B. 728 mm (28.7 in)
C. 1,168 mm (46.0 in)	D. 1,168 mm (46.0 in)	E. 35 mm (1.37 in)
F. 1,168 mm (46.0 in)	G. 22 mm (0.9 in)	H. 190 mm (7.5 in)

J. 617 mm (24.3 in)

# RH Slide Door Opening Measurements — With Slide Door Installed



AAZIA0185ZZ

: Front of vehicle.

### **Without Door Seal and Interior Trim**

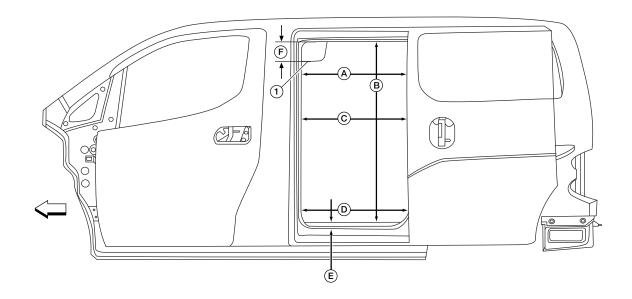
A. 623 mm (24.5 in)	B. 1,181 mm (46.5 in)	C. 622 mm (24.5 in)
---------------------	-----------------------	---------------------

D. 624 mm (24.6 in) E. 27 mm (1.06 in)

### With Door Seal and Interior Trim

1. Headlining	A. 620 mm (24.4 in)	B. 1,168 mm (46.0 in)		
C. 620 mm (24.4 in)	D. 622 mm (24.5 in)	E. 35 mm (1.37 in)		
F. 22 mm (0.9 in)	G. 196 mm (7.7 in)	H. 613 mm (24.1 in)		

# **LH Slide Door Opening Measurements — With Slide Door Installed**



AAZIA0232ZZ

: Front of vehicle.

### **Without Door Seal and Interior Trim**

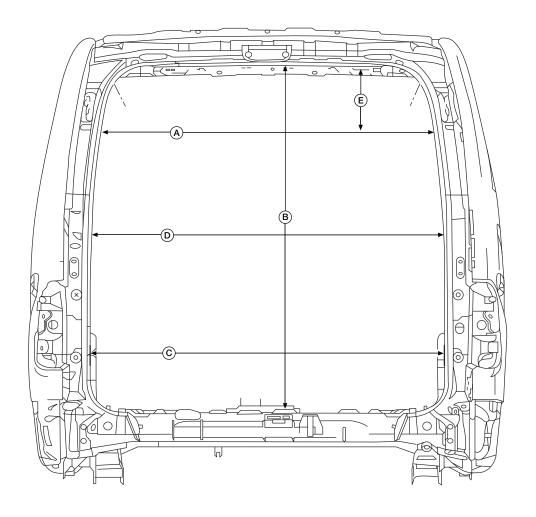
A. 623 mm (24.5 in)	B. 1,181 mm (46.5 in)	C. 622 mm (24.5 in)
---------------------	-----------------------	---------------------

D. 624 mm (24.6 in) E. 27 mm (1.06 in)

### With Door Seal and Interior Trim

1. Headlining	A. 620 mm (24.4 in)	B. 1,168 mm (46.0 in)		
C. 620 mm (24.4 in)	D. 622 mm (24.5 in)	E. 35 mm (1.37 in)		
F. 22 mm (0.9 in)	G. 196 mm (7.7 in)	H. 613 mm (24.1 in)		

# **Back Door Opening Measurements**



AAZIA0171ZZ

A. 1,175 mm (46.3 in)

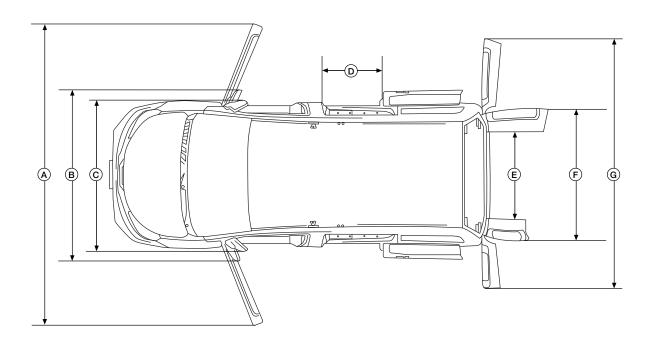
B. 1,238 mm (48.75 in)

C. 1,260 mm (49.6 in)

D. 1,250 mm (49.2 in)

E. 193 mm (7.6 in)

### **Doors and Mirrors Dimensions** Overhead View



AAZIA0172ZZ

A. 3,523 mm (138.7 in)

D. 671 mm (26.4 in)

G. 2,919 mm (114.9 in)

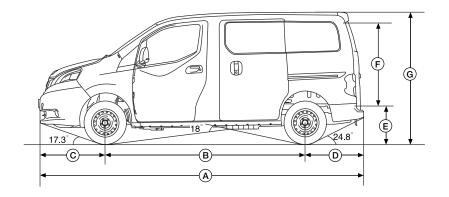
B. With Mirrors Unfolded: 2,010 mm (79.1 in)

E. 1,019 mm (40.1 in)

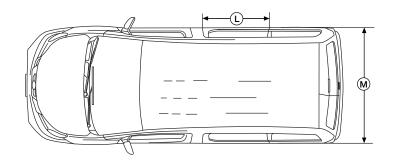
C. With Mirrors Folded: 1,868 mm (73.54 in)

F. 1,537 mm (60.5 in)

### **Exterior Overall Dimensions**









AAZIA0173ZZ

A. 4,732.5 mm (186.3 in)

D. 839.3 mm (33 in)

G. 1,871.7 mm (73.7 in)

K. 1,520 mm (59.8 in)

B. 2,925 mm (115.2 in)

E. 535.7 mm (21 in)

H. Between front fender outboard edges: 1,729.5 mm (68.1 in)

L. 996.6 mm (39.2 in)

C. 968.2 mm (38.1 in)

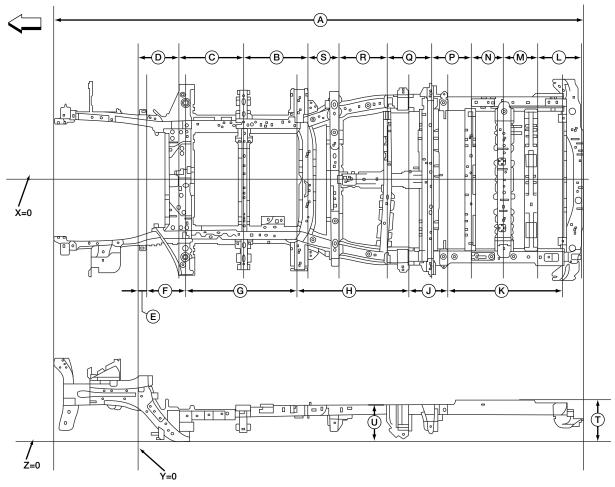
F. 1,226.7 mm (48.3 in)

J. 1,525 mm (60 in)

M. 1,710 mm (67.32 in)

### **UNIBODY AND FRAME**

### **Crossmember and Body Mount Dimensions**



AAZIA0219ZZ

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_				w	VCI	111	15

D. 376.94 mm (14.84 in)

G. 472.97 mm (18.6 in)

K. 909.28 mm (35.8 in)

N. 272.91 mm (10.75 in)

R. 442.02 mm (17.4 in)

U. 268.69 mm (10.6 in)

B. 520 mm (20.5 in)

E. 68.14 mm (2.68 in)

H. 844.21 mm (33.23 in)

L. 383.22 mm (15.08 in)

P. 326.32 mm (12.85 in)

S. 220.01 mm (8.66 in)

C. 508.05 mm (20 in)

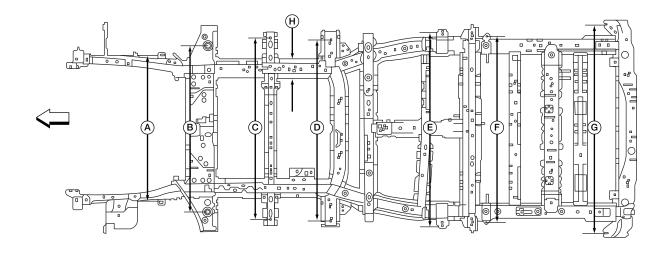
F. 343.87 mm (13.5 in)

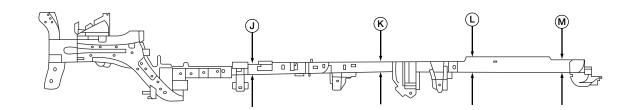
J. 329.36 mm (12.9 in)

M. 220.22 mm (8.67 in)

Q. 339.07 mm (13.35 in)

T. 305.8 mm (12 in)





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### NOTE:

### Floor sheet metal removed for clarity.

: Front of vehicle.

A. 1,009 mm (39.7 in)	B. 1,134 mm (44.6 in)	C. 1,250 mm (49.2 in)
D. 1,225 mm (48.2 in)	E. 1,331 mm (52.4 in)	F. 1,275.4 mm (50.2 in)
G. 1,428 mm (56.2 in)	H. 70.22 mm (2.7 in)	J. 69.74 mm (2.74 in)
K. 71.46 mm (2.8 in)	L. 96.96 mm (3.8 in)	M. 91.31 mm (3.6 in)

# **ELECTRICAL**

### **FUSE AND RELAY INFORMATION**

Fuses and Relays — Engine Compartment



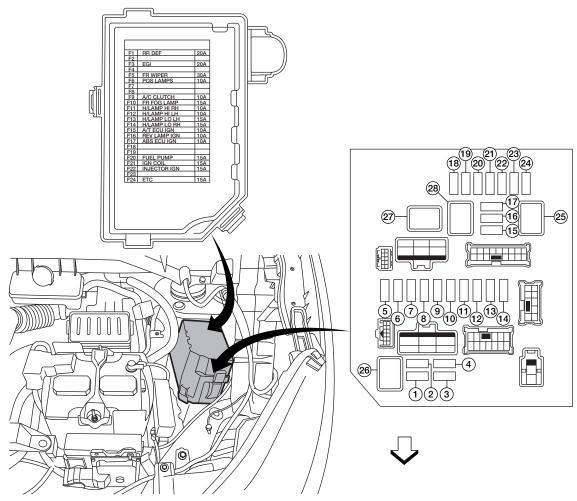
### **WARNING:**

Tampering with or modifying the electrical system may cause safety equipment malfunction possibly resulting in serious injury or death.



### **CAUTION:**

This information is reference only. To avoid damage, modification of the vehicle's electrical systems is not recommended. For pre-wiring access points, refer to CUSTOMER PRE-WIRING ACCESS. (BBG-86)



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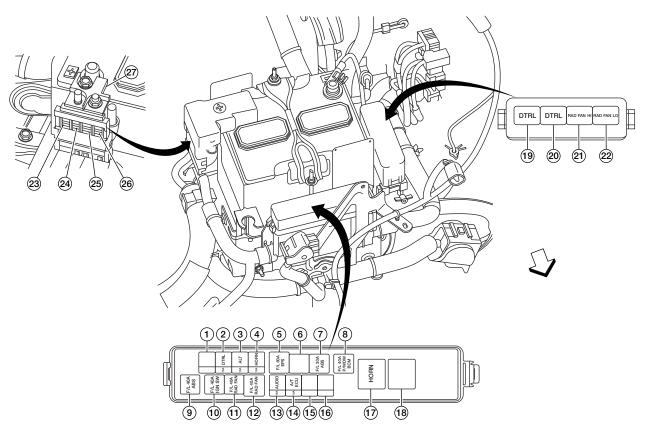
: Front of vehicle.

### **FUSE AND RELAY INFORMATION**

### [ELECTRICAL]

В	BC
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Item	Fuse/relay color	Fuse/relay color Fuse rating Power supply condition		Fuse/relay name
1	Yellow	20A	Battery	Rear window defogger
2	_	_	_	Not used
3	Yellow	20A	Battery	ECM relay
4	_	_	_	Not used
5	Green	30A	Battery	Front wiper
6	Red	10A	Battery	Parking, license plate and tail lamps
7	_	_	_	Not used
8	_	_	_	Not used
9	Red	10A	Battery	A/C clutch
10	Blue	15A	Battery	Front fog lamp
11	Red	10A	Ignition	Headlamp (high RH)
12	Red	10A	Ignition	Headlamp (high LH)
13	Blue	15A	Ignition	Headlamp (low LH)
14	Blue	15A	Ignition	Headlamp (low RH)
15	Red	10A	Ignition, Start	A/T control system
16	Red	10A	Ignition, Start	REV lamp IGN
17	Red	10A	Ignition, Start	ABS control
18	_	_	_	Not used
19	_	_	_	Not used
20	Blue	15A	Ignition, Start	Fuel pump
21	Blue	15A	Ignition, Start	Ignition system
22	Blue	15A	Ignition, Start	Fuel injector
23	_	_	_	Not used
24	Blue	15A	Battery Throttle control motor	
25	Black	_	_	Ignition relay
26	Black	_	_	Rear window defogger relay
27	Black	_	_	Cooling fan relay - 1
28	Black	_	_	Cooling fan relay - 2



AAZIA0311ZZ

### : Front of vehicle.

Item	Fuse/relay color	Fuse rating	Power supply condition	Fuse/relay name
1	_	_	_	Not used
2	Red	10A	Battery	Daytime light relay 1
3	Red	10A	Battery	Charging system
4	Red	10A	Battery	Horn relay
5	Yellow	60A	Battery	Electronically controlled power steering control unit
6	_	_	_	Not used
7	Yellow	30A	Battery	ABS solenoid
8	Blue	40A	Battery	BCM power window relay
9	Blue	40A	Battery	ABS motor
10	Green	40A	Battery	Starting system
11	Green	40A	Battery	Engine cooling fan system
12	Green	40A	Battery	Engine cooling fan system
13	Blue	15A	Battery Audio	

### **FUSE AND RELAY INFORMATION**

### [ELECTRICAL]

transmission control and audio systems

Alternator

Item	Fuse/relay color	Fuse rating	Power supply condition	Fuse/relay name
14	Red	10A	Battery	CVT system
15	_	_	_	Not used
16	_	_	_	Not used
17	Black	_	_	Horn relay
18	_	_	_	Not used
19	Blue	_	_	Daytime light relay 2
20	Black	_	_	Daytime light relay 1
21	Blue	_	_	Engine cooling fan system (HI)
22	Blue	_	_	Engine cooling fan system (LO)
23	_	80A	Battery	Air conditioning, mirror, power socket and body systems
24	_	60A	Battery	Ignition, power train, transmission and body systems
25	_	80A	Battery	Lighting, body, charging systems
26	_	100A	Battery	BCM, engine cooling, starting,

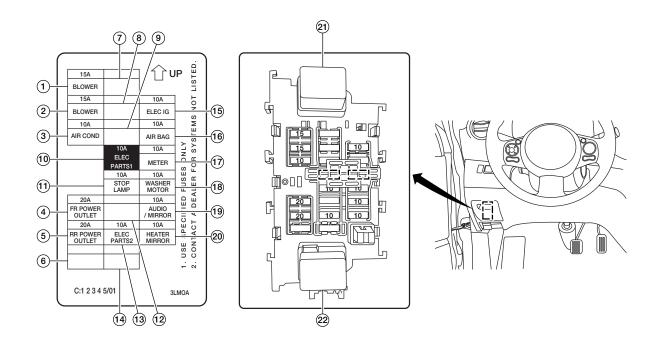
120A

27

Battery

BBG

### Fuses and Relays — Interior



AAZIA0162ZZ

Item	Fuse/Relay Color	Fuse Rating	Power Supply Condition	Fuse/Relay Name
1	Blue	15A	Ignition	Air conditioning system
2	Blue	15A	Ignition	Air conditioning system
3	Red	10A	Ignition	Air conditioning system
4	Yellow	20A	Accessory, Ignition	Front 12V power socket
5	Yellow	20A	Accessory, Ignition	Rear 12V power socket
6	_	_	_	Not used
7	_	_	_	Not used
8	_	_	_	Not used
9	_	_	_	Not used
10	Red	10A	B+	Meter, key switch, CONSULT
11	Red	10A	B+	Stop lamp system
12	_	_	_	Not used
13	Red	10A	B+	BCM

### **FUSE AND RELAY INFORMATION**

### [ELECTRICAL]

me	BBC

Item	Fuse/Relay Color	Fuse Rating	Power Supply Condition	Fuse/Relay Name
14	_	_	_	Not used
15	Red	10A	Ignition	Ignition system
16	Red	10A	Ignition	Air bag system
17	Red	10A	Ignition	Meter, Bluetooth® control unit, IT master, stop lamp, EPS, CONSULT system
18	Red	10A	Ignition	Wiper and washer system switch
19	Red	10A	Accessory, Ignition	BCM, Bluetooth® control unit, audio, mirror and telematics system
20	Red	10A	Accessory, Ignition	Heater mirror
21	Blue		Ignition	Blower relay
22	Blue	_	Accessory	Accessory relay

### **GROUNDS**

#### **Grounds**



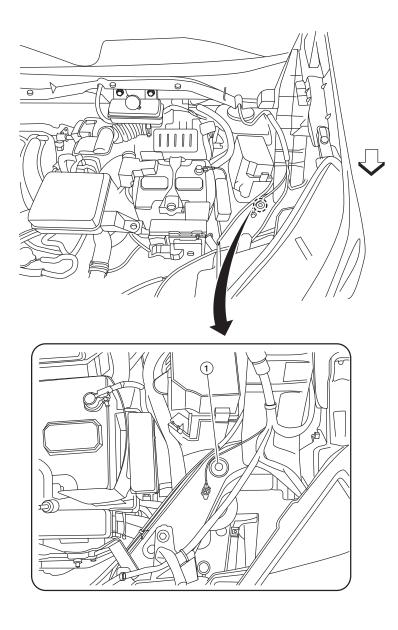
### **CAUTION:**

- Do not ground accessories directly to the battery negative terminal on any Nissan vehicle. Doing so may interfere with the power generation voltage variable control system and cause poor or inoperative battery charging.
- Install electrical accessories using suitable body ground connections or ground to the engine block area.Refer to BATTERY VOLTAGE CONTROL SYSTEM (BBG-84) in this section.

It is the responsibility of the vehicle upfitter to install any grounds necessary for equipment from aftermarket or second stage equipment manufacturers. NISSAN factory grounds should not be altered.

### **Permissible Ground Location**

### **Underhood**



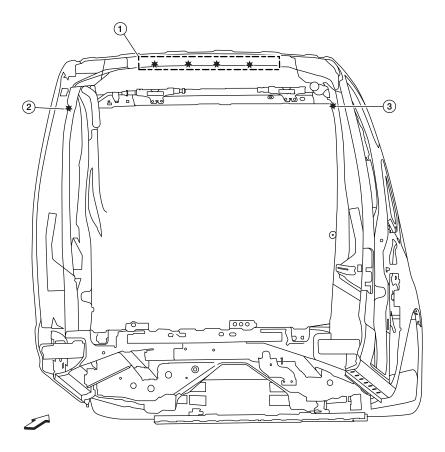
AAZIA0207ZZ

Use a bolt, nut and washers or self-tapping screw with dielectric grease to fasten additional underhood accessory grounds.

<sup>☐:</sup> Front of vehicle.

<sup>1.</sup> Permissible ground location.

### **Bulkhead**



AAZIA0208ZZ

- 1. Upper bulkhead locations
- 2. LH B-pillar location
- 3. RH B-pillar location

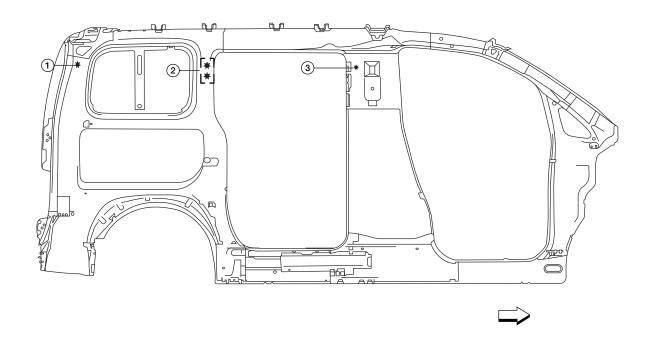
Use M8 x 1.25 bolt(s) with dielectric grease to fasten additional interior accessory grounds.

<sup>☐:</sup> Front of vehicle.

<sup>\*</sup> Weld nut locations are M8 x 1.25. Weld nut locations 2 and 3 may be plugged with M8 bolts.

### **LH Body Side, Inner**

LH body side inner as viewed from inside the vehicle.



AAZIA0209ZZ

- ☐: Front of vehicle.
- \* Weld nut locations are M8 x 1.25. Weld nut location 3 may be plugged with a M8 bolt.
- 1. D-pillar location

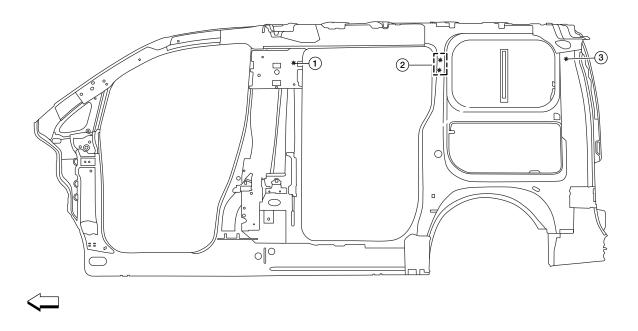
2. C-pillar locations

3. B-pillar location

Use M8 x 1.25 bolt(s) with dielectric grease to fasten additional interior accessory grounds.

### **RH Body Side, Inner**

RH body side inner as viewed from inside the vehicle.



AAZIA0210ZZ

☐: Front of vehicle.

\* Weld nut locations are M8 x 1.25. Weld nut location 1 may be plugged with a M8 bolt.

1. B-pillar location

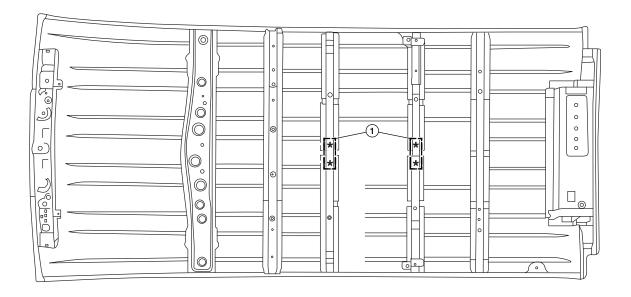
2. C-pillar locations

3. D-pillar location

Use M8 x 1.25 bolt(s) with dielectric grease to fasten additional interior accessory grounds.

#### **Interior Roof Bow**





AAZIA0211ZZ

- <a>☐: Front of vehicle.</a>
- \* Weld nut locations are M6 x 1.0.
- 1. Permissible ground locations.

Use M6 x 1.0 bolt(s) with dielectric grease to fasten additional interior accessory grounds.

### BATTERY VOLTAGE CONTROL SYSTEM



### **CAUTION:**

- Do not ground accessories directly to the battery negative terminal on any Nissan vehicle. Doing so may interfere with the power generation voltage variable control system and cause poor or inoperative battery charging.
- Install electrical accessories using suitable body ground connections or ground to the engine block area.
- Use electrical accessories with the engine running to avoid discharging the vehicle battery.

Adding electrical devices puts more load on the electrical system and the battery. The engine control module (ECM) monitors battery voltage. If battery voltage drops below 12 volts, engine RPM is increased up to 900 RPM (maximum for idle condition when the engine is at normal operating temperature). RPM will decrease as battery voltage increases. Engine RPM changes are gradually ramped up and down by ECM control.

For battery specifications, refer to Battery (BBG-166) in the Specifications section.

#### BBG

### BATTERY VOLTAGE CONNECTION



To avoid vehicle damage, any aftermarket wiring installations must not interfere with OEM wiring or electrical systems. It is the upfitter's responsibility to take the following precautionary measures when any aftermarket electrical wiring is being installed:

- The upfitter is responsible to calculate all additional current load specifications and install appropriately rated wiring and fuse protection.
- The upfitter is responsible to not exceed the vehicle's maximum rated current capacity.
- The upfitter is responsible to maintain integrity of the vehicle's electrical systems.
- The upfitter is responsible for safety testing of any electrical modifications to the vehicle.

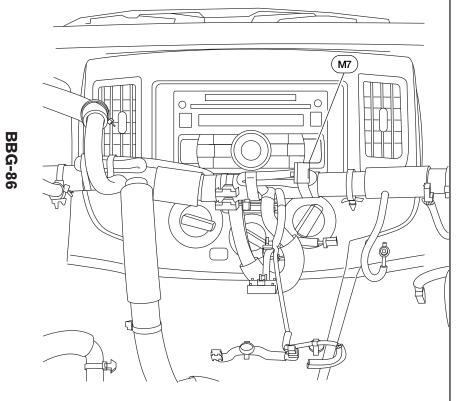
Refer to manufacturer specifications for aftermarket electrical accessories to be installed before making any voltage connections and protect vehicle electrical systems by installing appropriate fusing devices.

For information on ground connections, refer to GROUNDS (BBG-78) in this section.

**Telematics Connector Terminal Layout** 

**CUSTOMER PRE-WIRING ACCESS** 

## UPFITTER PRE-WIRING (TELEMATICS)



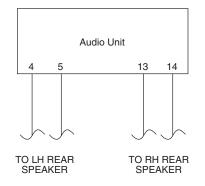
Connector No.	M7
Connector Name	PRE-WIRING FOR TELEMATICS CONTROL MODULE
Connector Color	WHITE



					_	_	_	īL			
1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name	Wire Gauge	Maximum Load
8	BLACK	DOOR UNLOCK	20	-
9	YELLOW/ BLUE	AIRBAG WARNING	20	Do Not Use
10	Orange	ACC	22	5 A
11	Red	COLLISION NOTIFY	20	Less than 10 mA
12	Blue	CAN-H	20	-
21	Pink	DOOR LOCK	20	-
22	Black	GND	22	10 A
23	Yellow	B+	22	5.5 A
24	Pink	CAN-L	20	-

### **REAR SPEAKER WIRING**



Connector No.	M43	M70
Connector Name	AUDIO UNIT (WITHOUT NAVIGATION SYSTEM)	AV CONTROL UNIT (WITH NAVIGATION SYSTEM)
Connector Color	WHITE	WHITE



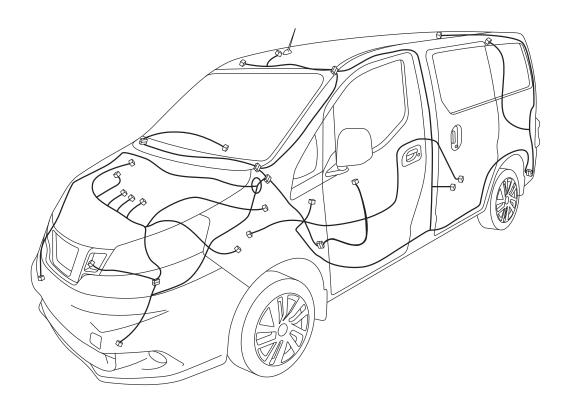
	_			JF	_		_	٦L			7
Γ	一	1	2	3	4	5	6	7	8	9	_
	19	10	11	12	13	14	15	16	17	18	20
L											

Terminal No.	Signal Name			
4 REAR SP LH +				
5	REAR SP LH -			
13	REAR SP RH +			
14	REAR SP RH -			

CAUTION:
Only use speakers rated at 2 ohms impedance to avoid damaging the audio unit.
Connector pins and wiring must be inserted into the connector cavities indicated. Use pin terminals supplied with Genuine Nissan Connector and Terminal Pin Kit (J38751-95NI).

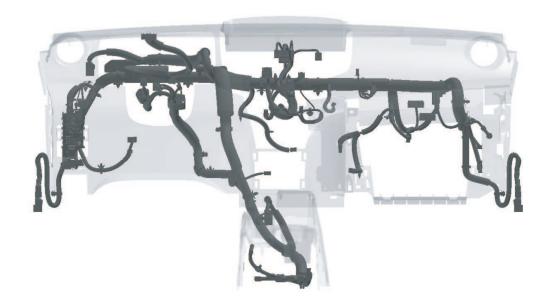
### HARNESS LAYOUT

### **Harness Outline**



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### **Main Harness**



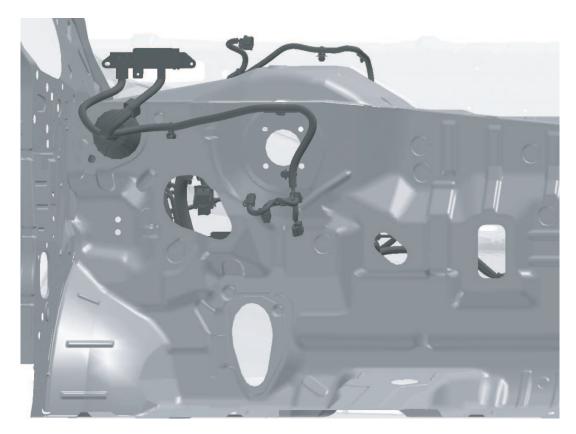
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### **Engine Room Harness**



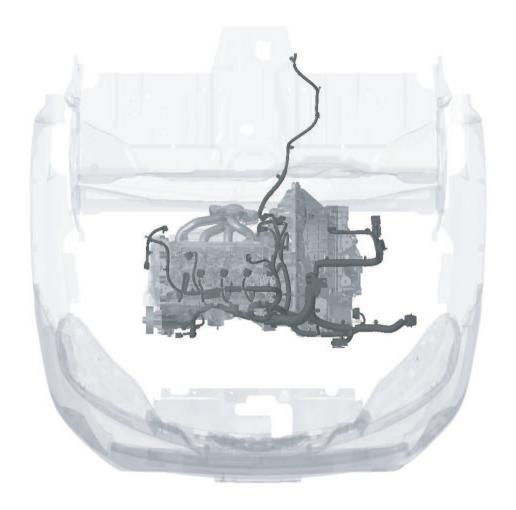
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### **Engine Room Harness (Passenger Compartment)**



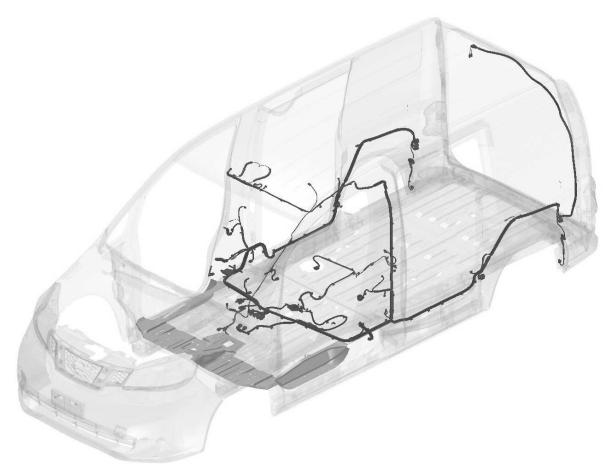
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### **Engine Control Harness**



AAZIA0116ZZ

### **Body Harness**



AAZIA0115ZZ

### **Front Door LH Harness**



AAZIA0119ZZ

### **Front Door RH Harness**



AAZIA0120ZZ

### **Sliding Door (LH) Harness**



AAZIA0125ZZ

### **Sliding Door (RH) Harness**



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### **Back Door RH Harness (With Window Glass)**



AAZIA0123ZZ

### **Back Door RH Harness (Without Window Glass)**



AAZIA0124ZZ

### **BULBS**

### **Exterior Lamp**

It	tem	Wattage (W)*	Bulb No.*	
Front combination lane	Turn signal/parking lamp	28/8	3457 NAK	
Front combination lamp	Headlamp low/high	60/55	Halogen H13	
	Stop/tail lamp	27/7	3047K	
Rear combination lamp	Turn signal lamp	27	3157AK	
	Back-up lamp	16	921	
High-mounted stop lamp		16	921	
License plate lamp		5	T10	

<sup>\*</sup> Always check with an authorized NISSAN dealer for the latest parts information.

### Interior Lamp/Illumination

Item	Wattage (W)*	Bulb No.*
Front room/map lamp	5	W5W
Cargo lamp	5	W5W

<sup>\*</sup> Always check with an authorized NISSAN dealer for the latest parts information.

#### **HEADLAMP AIMING**

#### Inspection

#### NOTE:

The aftermarket equipment manufacturer, second stage manufacturer, and upfitter are responsible for maintaining or restoring the headlamp adjustment after modifications to the vehicle are complete. The upfitter is responsible for maintaining compliance with the Federal or Canadian Motor Vehicle Safety Standards.

#### **Preparation Before Adjusting**

Before performing aiming adjustment, check the following:

- Modifications are complete and the vehicle is unladen.
- Adjust the tire pressure to the specification.
- Place the vehicle on a level surface.
- Fill vehicle with fuel, engine coolant, and engine oil.
- Remove cargo to maintain an unloaded vehicle condition.
- Confirm the spare tire, jack, and tools are present and properly stowed.
- Place a driver or equivalent weight of 68.5 kg (150 lbs) on the driver seat.
- By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.
- Place the front tires in the straight ahead position.
- Carefully wipe off any dirt from the headlamp lens.

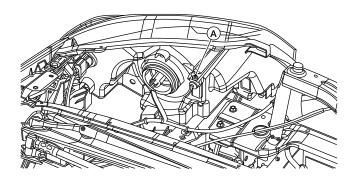


### To avoid damage to the headlamp lens, never use organic solvent (thinner, gasoline, etc.).

#### NOTE:

- For headlamp aiming details, refer to the regulations in your own area.
- Perform headlamp aiming if the vehicle front body has been repaired and/or the front combination lamp has been removed or replaced.
- By regulation, no means for horizontal adjustment is provided. Horizontal aim will only be serviced by combination lamp replacement.

#### **Aiming Adjustment Screw**



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### A. Headlamp (UP/DOWN) adjustment screw

 Rotate the headlamp (UP/DOWN) adjustment screw to raise or lower the headlamp vertical beam pattern, using a suitable tool.



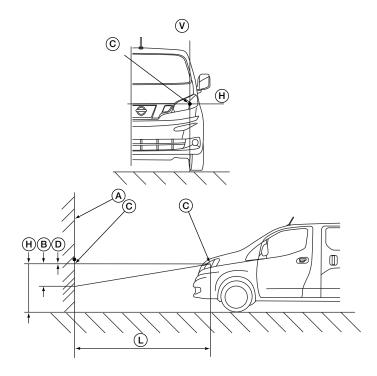
### **CAUTION:**

Do not rotate headlamp (UP/DOWN) adjustment screw beyond a torque of 1.67 N-m (17 kg-cm, 14.8 in-lb), or damage may occur.

### **Vertical Aiming Adjustment Procedure**

#### **NOTE:**

Horizontal adjustment is not possible. If horizontal adjustment is off, then the headlamp assembly from that side should be replaced.



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A. Screen surface

B. Lowest cutoff line height

C. Center of headlamp bulb (H-V

point)

D. Highest cutoff line height

H. Horizontal center line of head-

L. 10 m (32.8 ft)

lamp

V. Vertical center line of headlamp

**BBG** 

1. Place the screen on a flat surface the same level as the vehicle.

#### NOTE:

#### Surface should be free of any debris that would cause a difference in vehicle side-to-side height.

- 2. Face the front of the vehicle to the screen and measure distance between the headlamp center and the screen surface.
  - Distance between the headlamp center and the screen (L): 10 m (32.8 ft)
- 3. Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable object. Aim each headlamp individually.



### **CAUTION:**

### Never cover the lens surface with tape or plastic, etc. The lens is made of resin.

- 4. Start the engine. Turn the headlamps on.
- 5. Determine the preferred vertical aim range dimensions, using the illustration and table.

Headlamp Center Height	Highest Cutoff	Lowest Cutoff		
mm (in)	mm (in)	mm (in)		
700 - 800 (27.56 - 31.49)	4.0 (0.157)	30.0 (1.18)		
801 (31.54)	17.0 (0.67)	44.0 (1.73)		

- 6. Measure the projected beam within the aim evaluation segment on the screen.
- Adjust the beam pattern of each headlamp until the aim evaluation segment (the area relative to both the
  highest and lowest cutoff line height) is positioned within the vertical aim range dimensions shown on the
  aiming chart.

### ADDING LIGHTS OR DEVICES

### **Added Lights or Accessories Controlled By Added Switches**

This section describes the connection points for added electrical accessories when these accessories are to be controlled by added switches not a part of the NISSAN released vehicle. The added switches and wiring must have sufficient electrical capacity for the accessory load and must be protected by appropriate fuses or circuit breakers. Also, added current draw must not cause total loads to exceed capabilities of the base vehicle wiring.

### Electrical Wiring — Adding Lights or Electrical Devices



### **CAUTION:**

Improper electrical tie-ins may affect vehicle operation (i.e., engine, transmission). After all electrical or vehicle modifications, confirm that no Diagnostic Trouble Codes (DTCs) are present and all systems operate normally. Road test the vehicle to verify that no DTCs are present. If DTCs are generated, perform the appropriate diagnostic procedures and repairs. Vehicle operation (engine/transmission) may be affected if DTCs are not serviced.

Although there are many points in the electrical system to connect additional circuits, certain connection points are recommended for reliability and convenience. This section defines the recommended connection points. Alternative connections or wiring practices are not recommended as certain modifications may result in other circuits becoming nonfunctional.

Disconnect the battery negative (ground) cable prior to any vehicle modification. Upon completion of body or equipment installation, all wiring should be checked for proper routing, etc. to preclude electrical shorts upon reconnecting the battery negative cable.

Connect only to the upfitter connections identified in the "customer pre-wiring access" section of this manual. Connecting to any component or wires other than those identified may adversely affect other systems and their operation.

#### Radio Frequency Interference (RFI)

During modifications to the vehicle, manufacturers, service technicians, owners and users should take the necessary precautions to maintain the RFI integrity of components. (Both the United States and Canada have RFI regulations in effect.) Precautionary procedures and components listed below are examples and do not necessarily represent a complete list.

- 1. All components required to suppress RFI emissions, which are removed during service, repair, or modification to the vehicle, must be reinstalled in the manner in which they were installed by NISSAN.
- 2. Do not modify or change any RF device in a manner not expressly approved by NISSAN.
- 3. Shields on ignition components must remain installed.
- 4. Replacement of ignition components which are not OEM is not recommended by NISSAN.
- 5. Electrical grounds on all components must be retained.
- 6. Metallic components installed on the body or chassis must be grounded to the chassis.
- 7. Electrical circuits added to the vehicle should not be installed near the ignition components.
- 8. Only "static conductive" accessory drive belts should be used.
- 9. Drive belts should be of the OEM type or equivalent that will not build up a static electrical charge.
- 10. Additional measures may be needed to adequately suppress RFI emissions.

#### REGULATIONS FOR ADDING COMMUNICATION EQUIPMENT

[ELECTRICAL]

BBG

### REGULATIONS FOR ADDING COMMUNICATION EQUIPMENT

#### **FCC Regulations**

The FCC rules and regulations are compiled in Title 47 of the Code of Federal Regulations (CFR). They are initially published in the Federal Register. After October 1 of each year, the GPO compiles all the changes, additions, and deletions to the FCC rules and publishes an updated CFR. Refer to the FCC website for the most up-to-date information. The rules are provided in text version and in portable document format (PDF) and can be viewed using the Adobe Acrobat Reader. The FCC does not maintain a database of its rules nor does it print or stock copies of the rules and regulations. To order a copy of Title 47 of the Code of Federal Regulations visit:

http://www.fcc.gov/encyclopedia/rules-regulations-title-47

#### **FCC Notice:**

#### For USA:

These devices must comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. The device may not cause harmful interference.
- 2. The device must accept any interference received, including interference that may cause undesired operation.

#### **NOTE:**

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

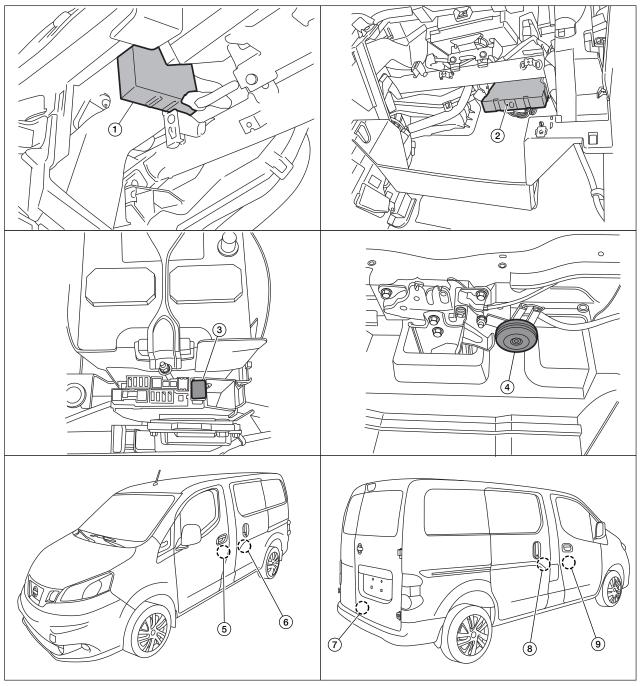
#### For Canada:

These devices must comply with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

- 1. The device may not cause interference.
- 2. The device must accept any interference, including interference that may cause undesired operation of the device.

### REMOTE KEYLESS ENTRY SYSTEM

### **Component Parts Location**



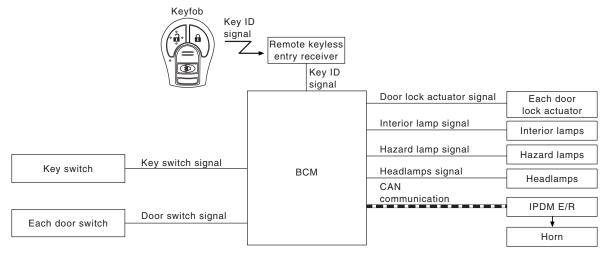
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- 1. Remote keyless entry receiver (view with glove box removed)
- 3. Horn relay
- 5. Front door switch LH
- 7. Back door switch
- 9. Front door switch RH

- 2. Body Control Module (BCM) (view with instrument cluster and steering wheel removed)
- 4. Horn
- 6. Sliding door switch LH
- 8. Sliding door switch RH

BBG

#### **System Diagram**

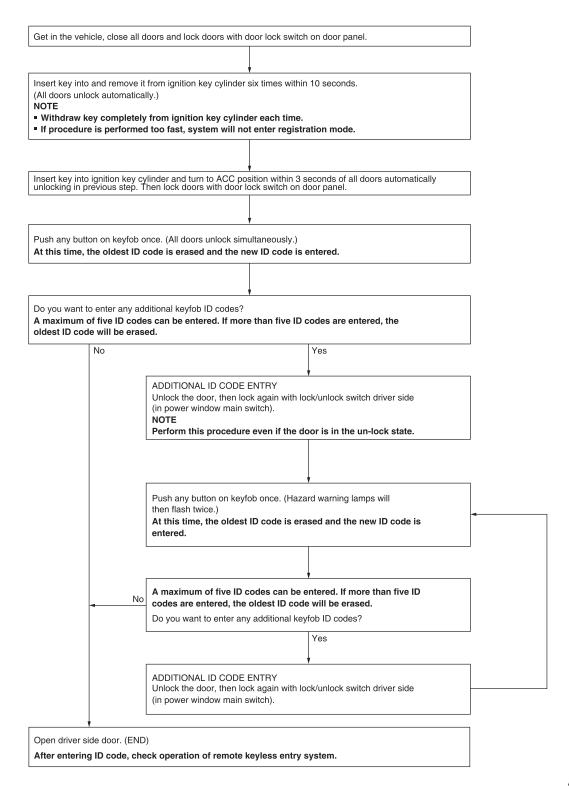


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#### **System Description**

- When the keyfob is operated, the signal from the keyfob is sent to the remote keyless entry receiver. The
  remote keyless entry receiver receives the signal and sends it to the BCM. The BCM only locks/unlocks
  the doors if the ID number matches. (Remote control entry functions)
- Using the keyfob, the transmitter sends radio waves to the remote keyless entry receiver, which than sends the
  received waves to the BCM. Only if the ID number matches does the BCM lock/unlock the doors. (Remote
  control function)
- Unless the key is inserted into the ignition key cylinder or one of the doors is opened within 1 minute after the UNLOCK switch on the keyfob is pressed, all the doors are automatically locked. (Auto lock function)
- When a door is locked or unlocked, the vehicle hazard lamps flash and the horn sounds to verify operation.
   (Active check function)
- When the key is in the ignition key cylinder (when the key switch is ON) and one of the doors is open, the door lock function does not work even when the door lock is operated with the keyfob.
- Keyfob ID set up is available.
- If a keyfob is lost, a new keyfob can be set up. A maximum of 5 IDs can be set up simultaneously.

#### **Keyfob ID Setup**



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# **FUEL SYSTEMS**

#### **FUEL SYSTEM PRECAUTIONS**

#### General

Modifications in the fuel system are not recommended, either in the circuit or the components.



#### **WARNING:**

When replacing fuel line parts, be sure to observe the following:

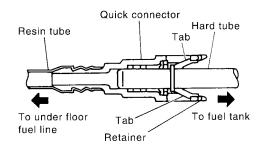
- Put a "CAUTION: FLAMMABLE" sign in the workshop.
- Be sure to work in a well-ventilated area and furnish workshop with a CO2 fire extinguisher.
- Do not smoke while servicing fuel system. Keep open flames and sparks away from the work area.

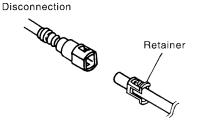


#### **WARNING:**

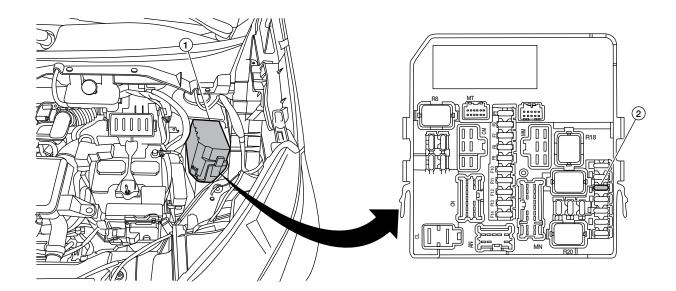
- Before removing fuel line parts, carry out the following procedures:
  - Put drained fuel in an explosion-proof container and put the lid on securely. Keep the container in safe area.
  - Release fuel pressure from the fuel lines.
     Refer to the Fuel Pressure Release Procedure (BBG-110) in this section.
  - Disconnect the battery negative terminal.
- Always replace O-rings and clamps with new ones.
- Do not kink or twist hoses when they are being installed.
- After connecting the fuel tube quick connectors, make sure the quick connectors are secure. Ensure that the connector and resin tube do not contact any adjacent parts.
- After installing tubes, make sure there is no fuel leakage at connections in the following steps:
  - Apply fuel pressure to fuel lines by turning ignition switch ON (with engine stopped). Then check for fuel leaks at connections.
  - Start the engine and rev it up and check for fuel leaks at connections.
- Use only a Genuine NISSAN fuel filler cap as a replacement.
   If an incorrect fuel filler cap is used, the MIL may come on.
- For servicing Evaporative Emission System parts, refer to the EC section in the service manual.
- For servicing On Board Refueling Vapor Recovery (ORVR) parts, refer to the EC section in the service manual.

Connection (cross-section)





#### **Fuel Pressure Release Procedure**

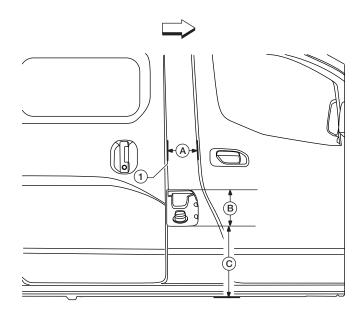


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- 1. Intelligent Power Distribution Module Engine Room (IPDM E/R)
- 2. Fuel pump fuse 20 (15A)
- 1. Remove fuel pump fuse (2) located in IPDM E/R (1). Refer to Fuse and Relay Information (BBG-72) for fuse layout.
- 2. Start engine.
- 3. After engine stalls, crank it two or three times to release all fuel pressure.
- 4. Turn ignition switch OFF.
- 5. Reinstall fuel pump fuse after servicing fuel system.

# FILLER NECK AREAS

#### Chassis



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: Front of vehicle

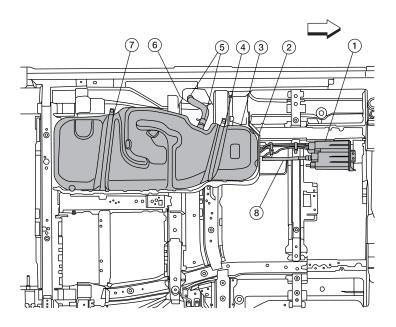
1. B pillar rear edge

C. 430 mm (16.9 in)

A. 195 mm (7.7 in)

B. 207 mm (8.1 in)

## **Fuel Filler Pipe and EVAP Canister Location**



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: Front of vehicle.

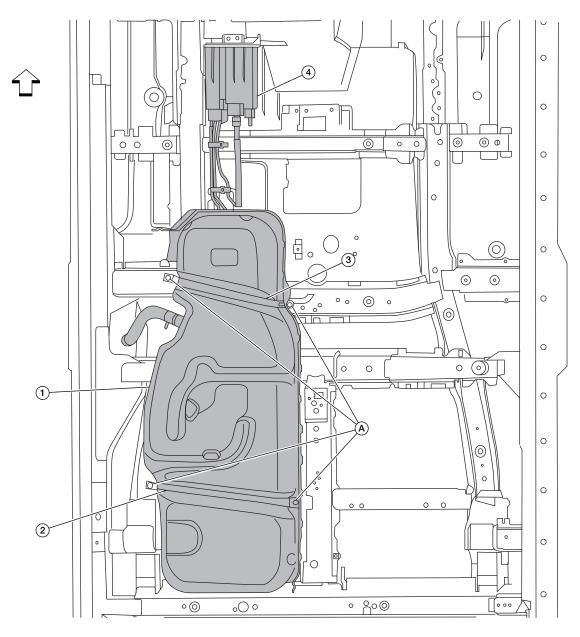
- 1. EVAP canister assembly
- 4. Front tank strap
- 7. Rear tank strap

- 2. Fuel tank protector
- 5. Clamp
- 8. EVAP vent tube

- 3. Fuel tank
- 6. Fuel filler hose

## TANK LOCATION

## **Tank Mounting**



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: Front of vehicle.

1. Fuel tank

2. Rear tank strap

3. Front tank strap

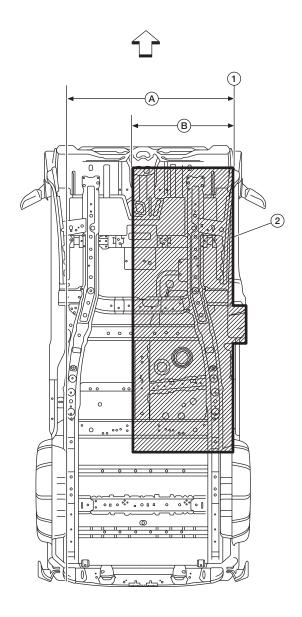
4. EVAP canister assembly

#### **Drilling Precaution Area**



Use special care when drilling in the areas shown because the fuel tank, fuel pump, fuel filler hose, EVAP canister assembly, and EVAP hoses are located just below the floor and could be damaged.

Fuel Tank — Floor Area



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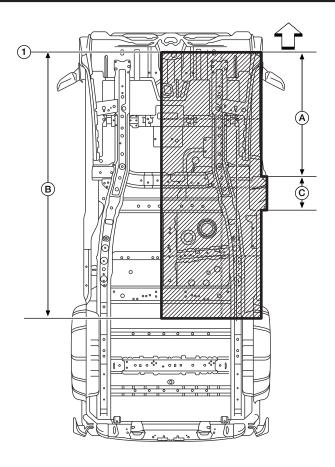
#### All dimensions and reference lines are shown with cargo mat removed.

: Front of vehicle.

1. Slide door weatherstrip pinch weld (reference line) 2. Fuel tank drill precaution zone

A. 1,366 mm (53.8 in)

B. 730 mm (28.7 in)



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#### All dimensions and reference lines are shown with cargo mat removed.

: Front of vehicle.

1. Front door jamb front at floor (reference line)

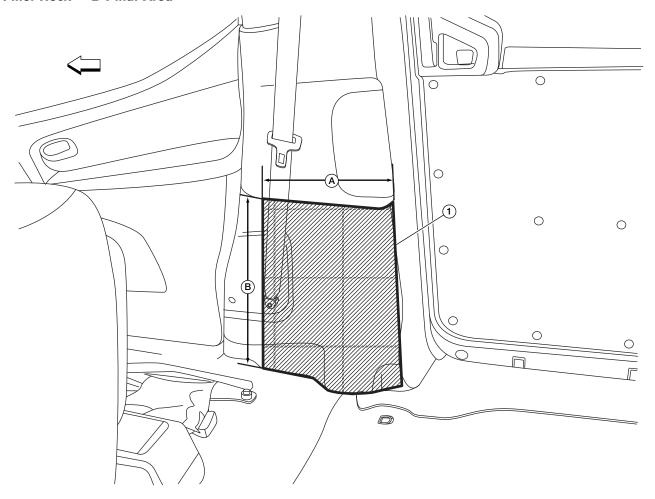
A. 920 mm (36.2 in)

B. 1,930 mm (76.0 in)

2. Fuel tank drill precaution zone

C. 210 mm (38.3 in)

#### Fuel Filler Neck — B-Pillar Area



AAZIA0233ZZ

: Front of vehicle.

1. Fuel filler area drill precaution zone

A. 300 mm (11.8 in)

B. 400 mm (15.7 in)

BBG

# TRAILER TOW

Do not tow a trailer with this vehicle. This vehicle is not equipped with trailer tow equipment.

# DESIGN REQUIREMENTS FOR MODIFICATIONS

COOLING

**Engine Cooling System** 



#### **CAUTION:**

No modification to the engine cooling system (radiator, radiator shroud, cooling fans, liquid cooling circuit, etc.) is allowed. Sufficient air passage to the radiator must be maintained, therefore, do not block the air passage through the radiator grille to the radiator with publicity plates, posters, trim or other decorative elements. Reduced air flow can cause overheating and could lead to component damage.

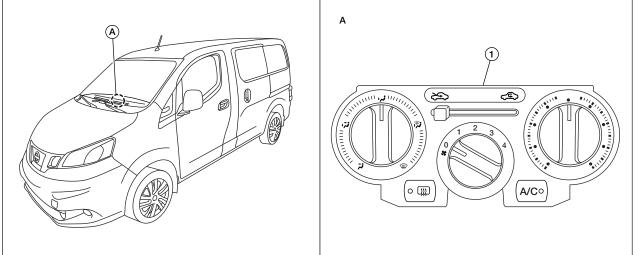
## **HVAC**

#### **Changes To The HVAC System**

Changes to the HVAC system are not recommended. For liquid connection information, service data and specifications, refer to the service manual.

#### **HVAC System Component Locations**

#### **MANUAL AIR CONDITIONING SYSTEM**



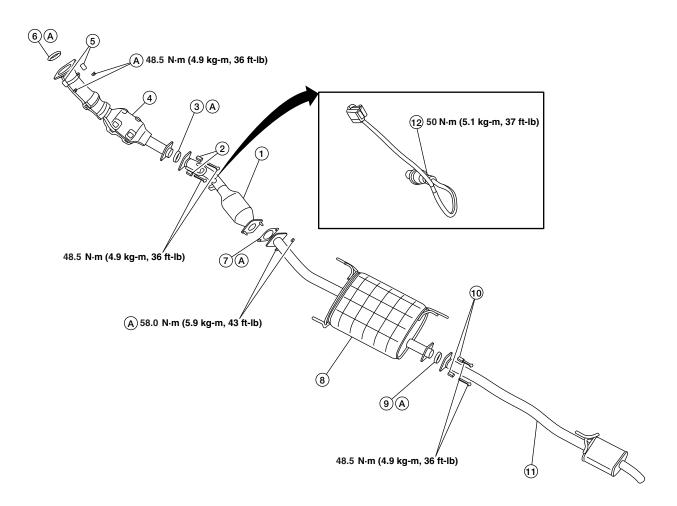
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1. Front air control (shown with optional rear window defroster button).

# **EXHAUST**

# **Exhaust System**

Changes to the exhaust system are not recommended.



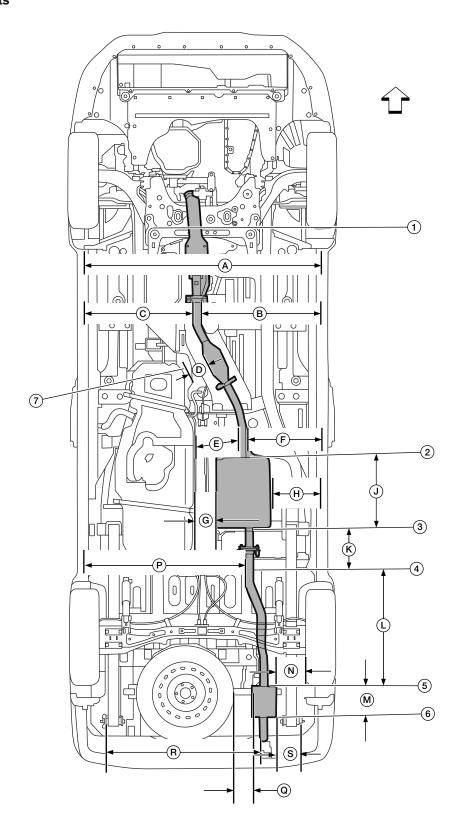
#### **EXHAUST**

#### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

- 1. Intermediate exhaust tube
- 4. Front exhaust tube
- 7. Gasket
- 10. Exhaust bolt springs
- A. Always replace after every disassembly
- 2. Exhaust bolt springs
- 5. Exhaust bolt springs
- 8. Main muffler
- 11. Tailpipe with secondary muffler
- 3. Ring gasket
- 6. Ring gasket
- 9. Ring gasket
- 12. Heated oxygen sensor

**BBG** 

#### **Exhaust Measurements**



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NOTE:

Shown as viewed from below.

### **BBG**

#### **EXHAUST**

#### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

$\overline{}$			•	1.3
$\overline{}$	:	⊢ront	ot v	ehicle.

< ☐: Front of vehicle.  □: Front of vehicle. □: Fr		
1. Leading edge of bracket	2. Front edge of main muffler	3. Rear edge of main muffler
4. Rear edge of body channel	5. Front edge of secondary muffler	6. Rear edge of secondary muffler
7. Fuel tank heat shield	A. 1470 mm (57.9 in)	B. 745 mm (29.3 in)
C. 670 mm (26.4 in)	D. 120 mm (4.7 in)	E. 265 mm (10.4 in)
F. 460 mm (18.1 in)	G. 122 mm (4.8 in)	H. 297 mm (11.7 in)
J. 460 mm (18.1 in)	K. 240 mm (9.4 in)	L. 730 mm (28.7 in)
M. 200 mm (7.9 in)	N. 200 mm (7.9 in)	P. 1002 mm (39.4 in)
Q. 110 mm (4.3 in)	R. 993 mm (39.1 in)	S. 64 mm (2.5 in)



#### To prevent exhaust gas leaks and possible CO poisoning:

- Always replace exhaust gaskets and ring gaskets with new ones when reassembling.
- Temporarily tighten the nuts on the front and rear of the exhaust tubes. Check each part for interference with other components, and then tighten the nuts and bolts to specification.

#### **Inspection After Installation**

- Check exhaust tube joints for exhaust gas leaks and unusual noises with the engine running.
- Check to ensure that mounting brackets and rubber insulators are installed properly and free from undue stress. Improper installation could result in excessive noise and vibration.

# WHEEL AND TIRE [DESIGN REQUIREMENTS FOR MODIFICATIONS]

#### WHEEL AND TIRE

#### **General**

The replacement of the tires with those other than the ones indicated by NISSAN is not recommended. Using tires of different make, size, type or characteristics on the same axle is not allowed. Using non-recommended tires could affect the performance of the Vehicle Dynamic Control (VDC) or other vehicle components. The NV200 Compact Cargo vehicle is designed to use commercial (C) rated tires only. Do not use passenger rated tires.

# STEERING AND SUSPENSION [DESIGN REQUIREMENTS FOR MODIFICATIONS]

#### STEERING AND SUSPENSION

#### **Vehicle Handling Information**



#### **WARNING:**

Changes made to the vehicle that significantly affect the ride height may cause vehicle control
problems during sharp turns or sudden steering maneuvers. Any maneuvers of this type could
result in an accident. The steering gear, intermediate shaft, coupling shaft, linkage, column, and
steering wheel should not be altered or relocated. Steering linkage travel should not be
restricted.



#### **CAUTION:**

- Because the heat from welding on or near the suspension or steering components may damage or weaken the components, it is not authorized.
- Welding equipment should not be grounded to any of the suspension components.
- Any new components attached to the steering column or its components must not interfere with the steering column performance during either normal operation or crash situations.
- New components and/or the vehicle load must not exceed the front and rear GAWRs or the GVWR.

#### NOTE:

The aftermarket equipment manufacturer, second stage manufacturer, and upfitter are responsible for maintaining or restoring the front wheel alignment after modifications to the vehicle are complete. The straight ahead orientation of the steering wheel must be maintained when re-adjusting the front wheel alignment. Changes to the vehicle center of gravity will affect handling. The upfitter is responsible for maintaining compliance with the Federal or Canada Motor Vehicle Safety Standards in regards to the center of gravity and vehicle handling characteristics.

**BBG** 

#### DRIVELINE

### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

### **DRIVELINE**



Any deviation from NISSAN specifications may adversely affect powertrain operation, including engine, transmission, or component reliability. The aftermarket equipment manufacturer, second stage manufacturer, and upfitter are responsible for maintaining the specifications after the completion of any modifications.

#### **TRANSMISSION**

#### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

**BBG** 

#### **TRANSMISSION**



#### **CAUTION:**

- The engine and transmission position relative to the shift linkage must not be altered.
- The transmission vent must not be altered, pinched, collapsed, restricted or relocated.
- The spacing for tool access for transmission adjustments or removal must be maintained.
- Transmission oil cooler lines should not be kinked, bent, or restricted. All oil cooler lines must be properly retained with adequate clips.
- The shift cable, external transmission shift lever, and shift cable bracket must not be altered.
- Transmission identification tags must not be removed or destroyed.
- All transmission wire harness routing, locating clips, heat shielding, and clearance to the exhaust must be maintained as installed by the factory.

# UNIBODY AND FRAME [DESIGN REQUIREMENTS FOR MODIFICATIONS]

#### **UNIBODY AND FRAME**



Failure to follow the recommendations below may weaken the vehicle structure, which could result in death or serious injury.

• Do not modify or alter the front crush horns. Modifications or alterations could adversely affect the vehicle in a crash.

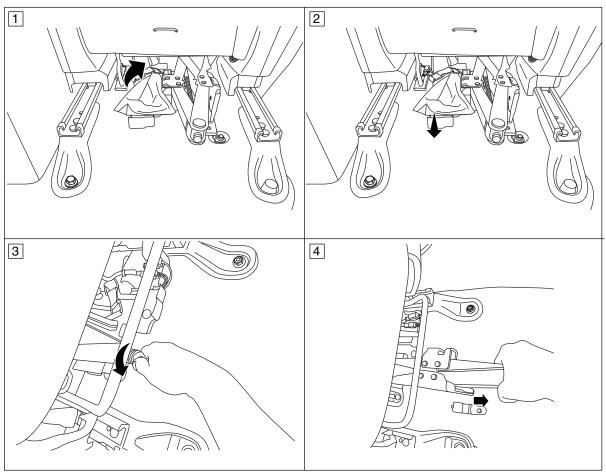
The vehicle structure is a unibody design with high strength steel support areas. High strength steel locations are not intended for modification. Refer to HIGH STRENGTH STEEL LOCATIONS (BBG-131) in this section.

**JACK** 

Jacking and Lifting Points Jack Storage

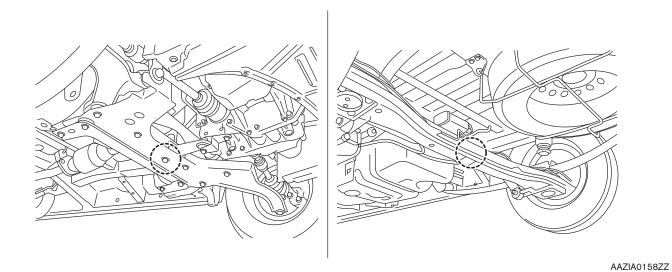
NOTE:

Jack and tools are stored under front passenger seat.

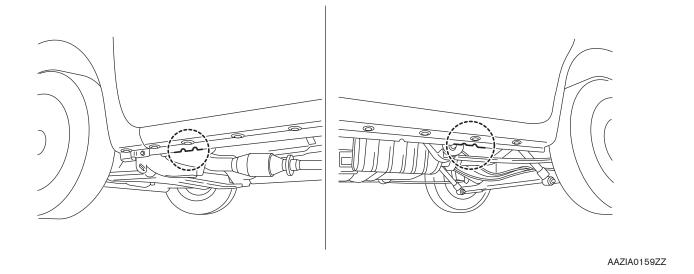


AAZIA0217ZZ

## **Garage Jack Points**



#### **2 Pole Lift Points**



#### HIGH STRENGTH STEEL LOCATIONS

**Precaution in Repairing High Strength Steel (HSS)** 



## **WARNING:**

- While working, suitable work clothes, a work cap and safety shoes must be worn. To prevent burns, a long sleeve shirt and trousers must also be worn and must not be taken off under any circumstance.
- Before starting repair work, be sure to disconnect the negative terminal of the battery.
- Pay attention to ventilation and health of the operators.
- Paint and sealants may generate poisonous gases when heated by fire.



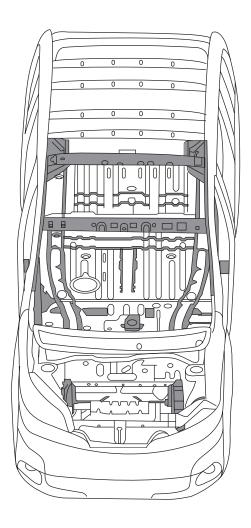
#### **WARNING:**

Do not heat, bend, or cut high strength steel or the structural integrity of the vehicle may be compromised.

#### **High Strength Steel Locations**

The grey shading in the following illustrations indicate body areas with high strength steel (HSS).

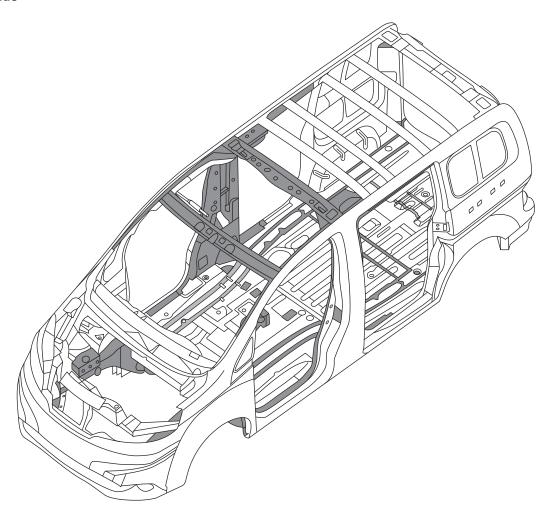
#### **Front**



AAZIA0129ZZ

**BBG** 

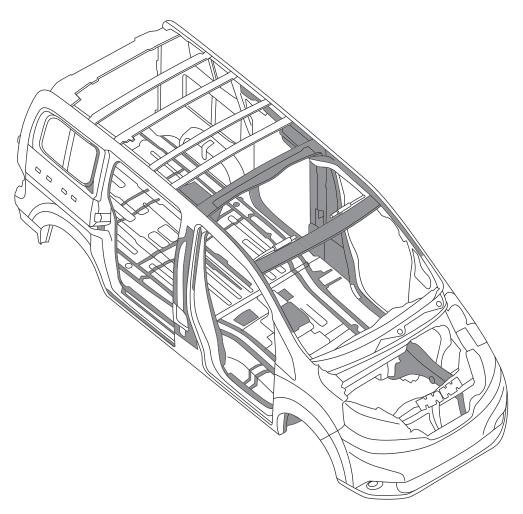
#### **Front Left Side**



AAZIA0130ZZ

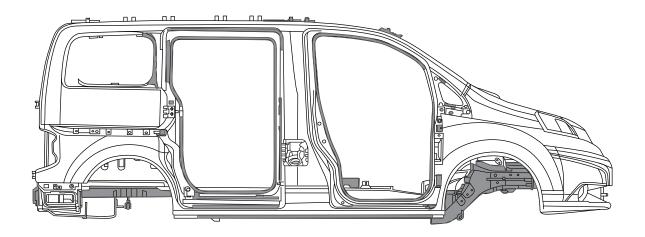
## **Front Right Side**





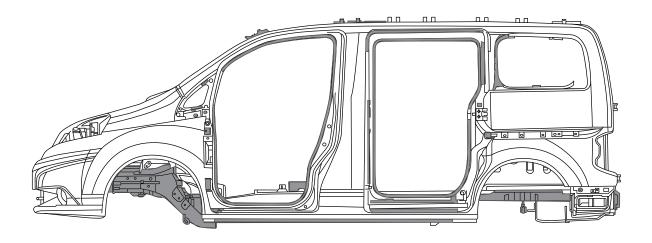
AAZIA0131ZZ

## **Right Side**



AAZIA0132ZZ

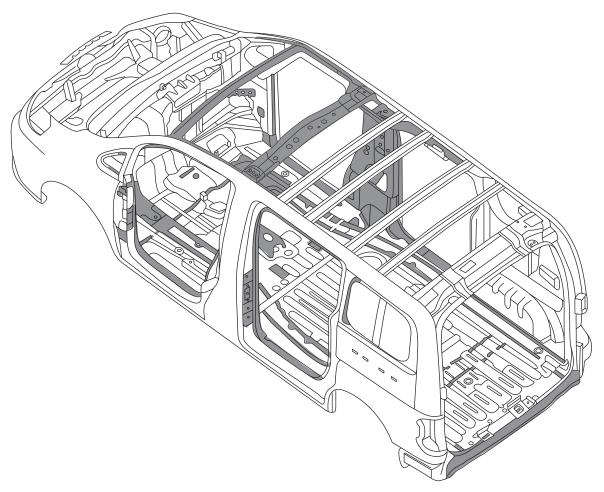
#### Left Side



AAZIA0133ZZ

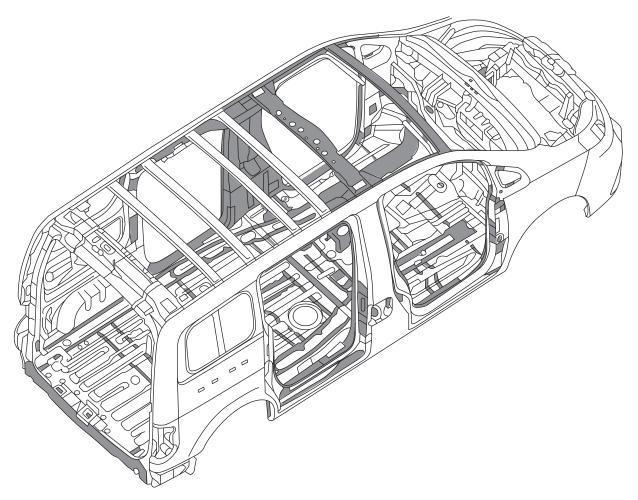
**Rear Left Side** 

BBG



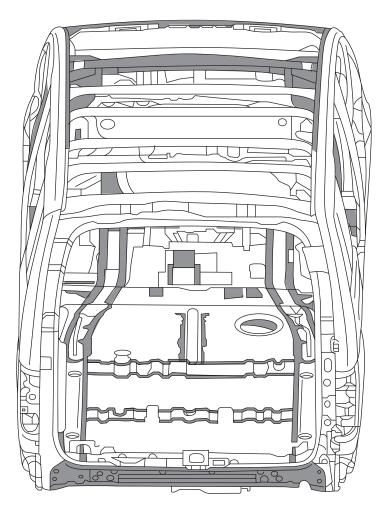
AAZIA0134ZZ

## **Rear Right Side**



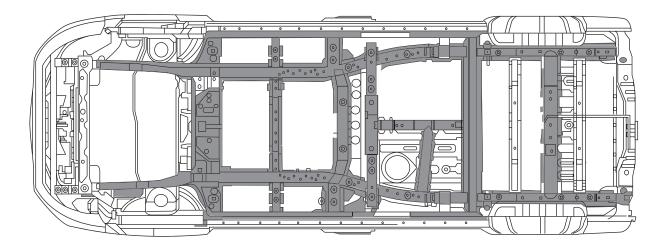
AAZIA0135ZZ

Rear BBG



AAZIA0136ZZ

Floor



AAZIA0137ZZ

## [DESIGN REQUIREMENTS FOR MODIFICATIONS]

WELDING



#### **WARNING:**

Do not heat, bend, or cut high strength steel or the structural integrity of the vehicle may be compromised.

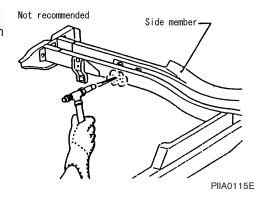
HSS is used for body panels in order to reduce vehicle weight. Accordingly, precautions in repairing automotive bodies made of HSS are described below:

#### **HSS Used in NISSAN Vehicles**

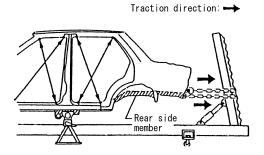
Tensile strength	Major applicable parts	
440 - 780 MPa	<ul> <li>Front inner pillar upper</li> <li>Front pillar hinge brace</li> <li>Outer front pillar reinforcement</li> <li>Other reinforcements</li> </ul>	
980 - 1310 MPa	<ul><li>Outer sill reinforcement</li><li>Main back pillar</li></ul>	

Read the following precautions when repairing HSS:

- 1. Additional points to consider:
  - The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550° C (1,022° F). Verify heating temperature with a thermometer (Crayon-type and other similar type thermometers are appropriate).



 When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points and carefully pull the HSS panel.



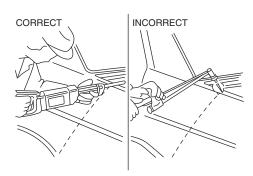
PIIA0116E

**BBG** 

#### WELDING

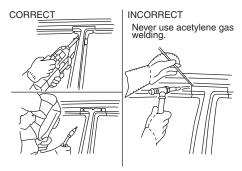
#### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97 in).



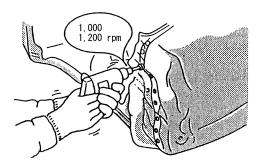
AAZIA0240GB

- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
- If spot welding is impossible, use MIG welding. Do not use gas (torch) welding because it is inferior in welding strength.



AAZIA0241GB

• The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



PIIA0145E

SP150 HSS panels with a tensile strength of 785 to 981 N/mm2 (80 to 100 kg/mm2, 114 to 142 lb/sq in), used as reinforcement in the door guard beams, is too strong to repair. When these HSS parts are damaged, the outer panels also sustain substantial damage; therefore, the assembly parts must be replaced.

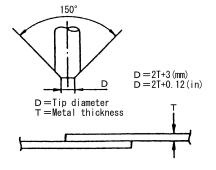
#### WELDING

#### [DESIGN REQUIREMENTS FOR MODIFICATIONS]

#### 2. Precautions in spot welding HSS:

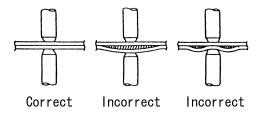
This work should be performed under standard working conditions. Always note the following when spot welding HSS:

 The electrode tip diameter must be sized properly according to the metal thickness.



PIIA0146E

The panel surfaces must fit flush to each other, leaving no gaps.



PIIA0147E

Follow the specifications for the proper welding pitch.

#### NOTE:

The minimum welding pitch varies with the thickness of panels to be welded. In general, observe the values in the following table. Note that excessively small pitch allows the current to flow through surrounding portions, resulting in poor welding strength.

outing in poor troi	ming in poor moraling outling in							
Thickness (T) mm (in)	Minimum pitch (L) mm (in)		<del>-</del>		<u> </u>			
0.6 (0.024)	10 (0.39) or over	Ţ			Ġ			
0.8 (0.031)	12 (0.47) or over	<u>↓</u>						
1.0 (0.039)	18 (0.71) or over	Ţ						
1.2 (0.047)	20 (0.79) or over		W	G	₩.			
1.6 (0.063)	27 (1.06) or over							
1.8 (0.071)	31 (1.22) or over							

# VEHICLE INTERIOR [DESIGN REQUIREMENTS FOR MODIFICATIONS]

#### VEHICLE INTERIOR

#### Modifications in the Vehicle Interior General

The modifications should not affect the operation of the control units (pedals, switches, rods, etc.) located in the area affected by the modification.

After any modification to the body that affect the acoustic and thermal insulation, the new and/or modified insulation must meet or exceed the original specifications.

The ergonomic access to the controls for the driver must not be prevented by the installation of new components.

Any modifications made by the aftermarket equipment manufacturer, second stage manufacturer, and upfitter must be properly sealed to protect against corrosion.

The aftermarket equipment manufacturer, second stage manufacturer, and upfitter must ensure that any modifications that have been made to the cabin still meet the legal requirements regarding the interior and exterior characteristics.

No new holes should be drilled to allow for attaching any new components to the roof of the cabin.

#### Modifications in the Roof of the Cabin

When attaching equipment to the roof, make sure that the added weight does not exceed the maximum roof load limit.

All components that pass through the external sheet metal (for electric cables, telephone aerials, etc.) must be properly sealed. Only NISSAN approved products should be used.

Changes to the center of gravity should not exceed the maximum authorized height.

## **PAINT WORK**

The aftermarket equipment manufacturer, second stage manufacturer, and upfitter are responsible for repairing any damage to the paint incurred while modifying the vehicle.

Only NISSAN specified paint should be used for these repairs. Refer to the BRM section in the Service Manual for information about the paint.

		Color code	B23	K23	QM1	KH3	NAC	
C		Description	Blue	Silver	White	Black	Red	
Componen	·	Туре	М	М	S	S	S	
		Clear coat	n	n	n	n	n	
Outside mirror	S	Molded black						
Outside mirror	SV	Body color						
S		Black						
Bumpers	SV	Body color*						
Outside bendles	S	Molded black						
Outside handles	SV	Body color*						
Dodiotov sville	S S		Grey paint					
Radiator grille	SV	Chromium plate*						

M: Metallic; S-Solid; n: Non-primerless Clear Coat; \*: Option

# ADHESIVE INFORMATION [DESIGN REQUIREMENTS FOR MODIFICATIONS]

## **ADHESIVE INFORMATION**

#### **MSDS Information**

Contact the product supplier for the latest MSDS (Material Safety Data Sheet) information.

Product Name	Code/Number	Supplier/Emergency Phone Numbers
Sunnex (adhesive for body)	SH-310	Sunstar Inc. www.sunstarea.com 937-746-8575
	06-1273 HM	Henkel Corporation
Towards (worst or all solves)	SA-461	www.henkel.com
Terostat (mastic adhesives)	SA-462	USA 1-248-583-9300
	SA-463	Chemtrec emergency 1-800-424-9300
Mastic adhesive PCC-13A		EFTEC North America, L.L.C. www.eftec.com 24 hour emergency 1-888-853-1758 Emergency transport 1-800-424-9300
Stiffener for outer panel	PE7000	NITTO Denko www.nitto.com 81-6-6452-2101
Betaseal adhesive (Direct glassing)	57302	Dow Chemical Co. www.dow.com 24 hour emergency 1-989-636-4400 Customer Information 1-800-258-2436

#### **BBG**

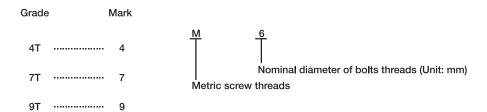
## **REPLACING BOLTS**

## **Tightening Torque Table**

	- ·	Bolt Bolt	<b>D</b> 1		Tig	htening	torque	(Withou	t lubrica	nt)	
Grade	Bolt size	diameter   Heyadon head holt			t	H	lexagon 1	flange bo	lt		
	mm		N⋅m	kg-m	ft-lb	in-lb	N⋅m	kg-m	ft-lb	in-lb	
	M6	6.0	1.0	5.5	0.56	4	49	7	0.71	5	62
	Mo	0.0	1.25	13.5	1.4	10	_	17	1.7	13	_
	M8	8.0	1.0	13.5	1.4	10	_	17	1.7	13	_
4T	M10	10.0	1.5	28	2.9	21	_	35	3.6	26	_
41	WITO	10.0	1.25	28	2.9	21	_	35	3.6	26	_
	Mao	10.0	1.75	45	4.6	33	_	55	5.6	41	_
	M12	12.0	1.25	45	4.6	33	_	65	6.6	48	_
	M14	14.0	1.5	80	8.2	59	_	100	10	74	_
	M6	6.0	1.0	9	0.92	7	80	11	1.1	8	97
	Mo	8.0	1.25	22	2.2	16	_	28	2.9	21	_
	M8		1.0	22	2.2	16	_	28	2.9	21	_
7T	M10	100	1.5	45	4.6	33	_	55	5.6	41	_
/ 1	IVITO	10.0	1.25	45	4.6	33	_	55	5.6	41	_
	Mao	10.0	1.75	80	8.2	59	_	100	10	74	_
	M12	12.0	1.25	80	8.2	59	_	100	10	74	_
	M14	14.0	1.5	130	13	96	_	170	17	125	_
	M6	6.0	1.0	11	1.1	8	_	13.5	1.4	10	_
	M8	8.0	1.25	28	2.9	21	_	35	3.6	26	
	IVIO	0.0	1.0	28	2.9	21	_	35	3.6	26	
9T	M10	10.0	1.5	55	5.6	41	_	80	8.2	59	_
91	IVITO	10.0	1.25	55	5.6	41	_	80	8.2	59	
	M12	10.0	1.75	100	10	74	_	130	13	96	_
	IVI I 2	12.0	1.25	100	10	74		130	13	96	_
	M14	14.0	1.5	170	17	125	_	210	21	155	_

<sup>\*</sup> Nominal diameter

- 1. Special parts are excluded.
- 2. This standard is applicable to bolts having the following marks embossed on the bolt head.



MGI044A

## ADD ON EQUIPMENT

#### ANTI-CORROSION PROTECTION



## Failure to refinish bare metal will result in corrosion.

The basic steps to refinish bare metal are as follows:

- 1. Prep the metal surface(s) as follows:
  - A. Remove burrs from the edges with a file or sandpaper.
  - B. Thoroughly clean the metal with solvent and allow to completely dry.
  - C. Apply self-etching primer to all bare metal.
  - D. Allow primer to properly dry.
- 2. Apply base coat paint and allow to properly dry.
- 3. Apply clear coat and allow to properly dry.
- 4. Apply Nissan Bitumen Wax (part number 999MP-9G001P) available at a Nissan dealer.

#### SHELVING AND BULKHEAD INSTALLATION

[ADD ON EQUIPMENT]

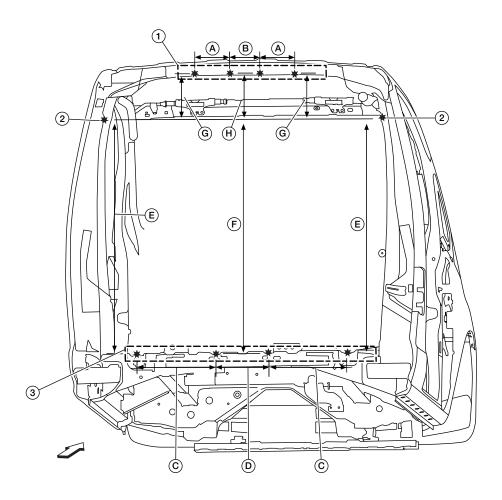
#### SHELVING AND BULKHEAD INSTALLATION

#### **Bulkhead**

The bulkhead should be attached to the NISSAN supplied weld nuts in the roof crossmember and the floor. No new attachment points should be added. Loading should be distributed evenly utilizing as many mounting points as possible.

Before bulkhead installation, it is necessary to cut away the rear portion of the headlining to avoid interference with the side curtain air bags deployment zones. The headlining should not be trapped, pinched or glued to the bulkhead. To correctly measure the headlining cut line, refer to HEADLINING CUT — FRONT SIDE CURTAIN AIR BAGS CLEARANCE FOR BULKHEAD INSTALLATION (BBG-18).

**BBG** 



AAZIA0140ZZ

: Front of vehicle.

- \* Weld nut locations for bulkhead installation; All bolts are M8 x 1.25
- 1. Mounting point loading not to exceed 10 kg (22 lbs) per point. Total loading across these 4 mounting points not to exceed 40 kg (88 lbs).
- 2. Mounting point loading not to exceed 10 kg (22 lbs) per point. Points may be plugged with M8 bolts.
- 3. Mounting point loading not to exceed 10 kg (22 lbs) per point. Total loading across these 4 mounting points not to exceed 40 kg (88 lbs).

A. 165 mm (6.5 in)

B. 138 mm (5.4 in)

C. 375 mm (14.8 in)

D. 255 mm (10.0 in)

E. 1,125 mm (44.3 in)

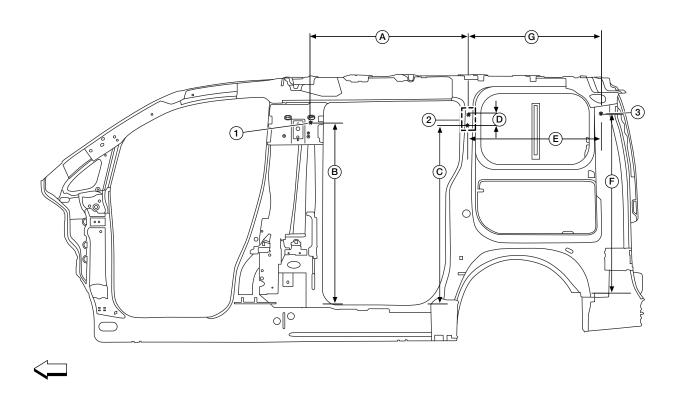
F. 1,135 mm (44.7 in)

G. 173 mm (6.8 in)

H. 193 mm (7.6 in)

#### **RH Body Side and D-pillar Inner**

RH body side inner as viewed from inside the vehicle. Loading should be distributed evenly, utilizing as many mounting points as possible.



AAZIA0309ZZ

### : Front of vehicle.

- \* Weld nut locations; All bolts are M8 x 1.25.
- 1. Bulkhead mounting weld nut

Mounting point loading not to exceed 10 kg (22 lbs). Point may be plugged with M8 bolt.

- 2. Mounting point loading not to exceed 10 kg (22 lbs) per point. Maximum loading across these 2 mounting points not to exceed 20 kg (44 lbs).
- 3. Mounting point loading not to exceed 10 kg (22 lbs).

A. 925 mm (36.42 in)

B. 1,091 mm (42.95 in)

C. 1,035 mm (40.7 in)

D. 60 mm (2.4 in)

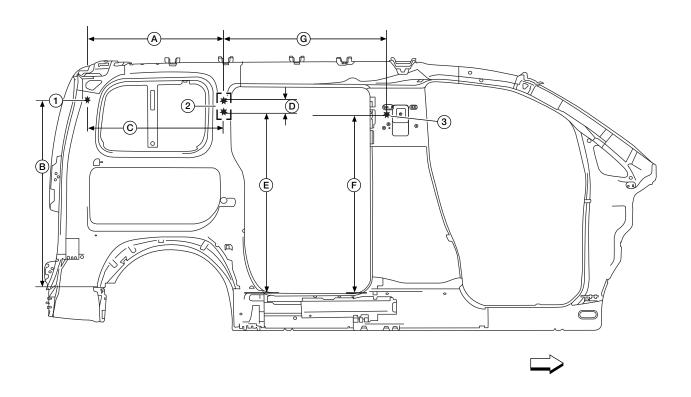
E. 805 mm (31.7 in)

F. 1,092 mm (43.0 in) From weld nut to metal floor

G. 795 mm (31.3 in)

#### LH Body Side and D-pillar Inner

LH body side inner as viewed from inside the vehicle. Loading should be distributed evenly, utilizing as many mounting points as possible.



AAZIA0308ZZ

### : Front of vehicle.

- \* Weld nut locations; All bolts are M8 x 1.25
- 1. Mounting point loading not to exceed 10 kg (22 lbs).
- 2. Mounting point loading not to exceed 10 kg (22 lbs) per point. Total loading across these 2 mounting points not to exceed 20 kg (44 lbs).
- 3. Bulkhead mounting weld nut

Mounting point loading not to exceed 10 kg (22 lbs). Point may be plugged with M8 bolt.

A. 795 mm (31.3 in) B. 1,092 mm (43.0 in) C. 805 mm (31.7 in) From weld nut to metal floor

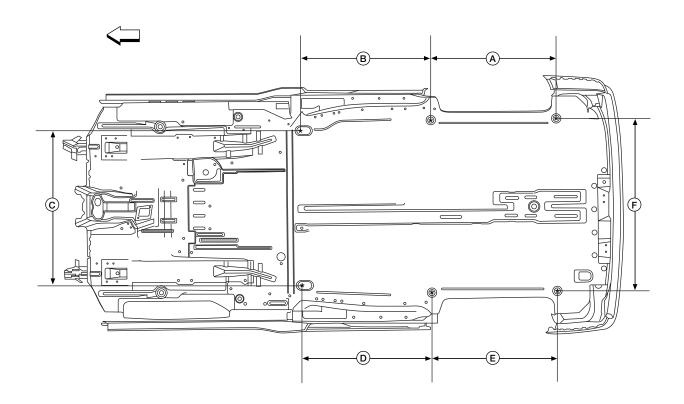
D. 60 mm (2.4 in) E. 1,035 mm (40.7 in) F. 1,091 mm (42.95 in)

G. 925 mm (36.42 in)

**BBG** 

#### **Floor**

The shelves bolt to the same location on the floor as the D-rings (if equipped). Loading should be distributed evenly utilizing as many mounting points as possible.



AAZIA0224ZZ

: Front of vehicle.

Mounting point loading not to exceed 10 kg (22 lbs) per point.

A. 817 mm (32.2 in)

B. 845 mm (33.3 in)

C. 1,005 mm (39.6 in)

D. 840 mm (33.1 in)

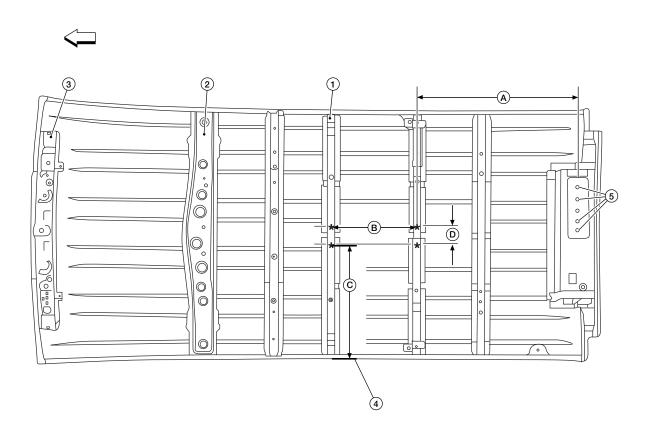
E. 817 mm (32.2 in)

F. 1,138 mm (44.8 in)

<sup>\*</sup> Bolt locations for shelving installation; All bolts are M8 x 1.25

#### **Interior Roof Bow Mounting Points**

Loading should be distributed evenly, utilizing as many mounting points as possible.



AAZIA0225ZZ

Mounting point loading not to exceed 5 kg (11 lbs) per point. Total loading across all 4 weld nuts not to exceed 20 kg (44 lbs).

Do not exceed a depth of 38 mm (1.5 in) for all 4 weld nuts.

1. Roof bow

- 2. Bulkhead roof bow
- 3. Windshield header

- 4. Slide door opening lower pinch weld
  - 5. Rear door striker weld nuts
- A. 790 mm (31.1 in)
- B. 420 mm (16.5 in)
- C. 617 mm (24.3 in)

D. 98 mm (3.9 in)

<sup>:</sup> Front of vehicle.

<sup>\*</sup> Weld nut locations; All bolts are M6 x 1.0

BBG

## **ROOF RACKS**



### **WARNING:**

- Drive extra carefully when the vehicle is loaded at or near the cargo carrying capacity, especially
  if the significant portion of that load is carried on the roof rack.
- Heavy loading of the roof rack has the potential to affect the vehicle stability and handling during sudden or abnormal handling maneuvers.
- Roof rack load should be evenly distributed.
- Do not exceed maximum roof rack load weight capacity.
- Properly secure all cargo with ropes or straps to help prevent it from sliding or shifting. In a sudden stop or collision, unsecured cargo could cause personal injury.
- To avoid personal injury, use care when placing or removing items from the roof rack. If you
  cannot comfortably lift the items onto the roof rack from the ground, use a ladder or stool.

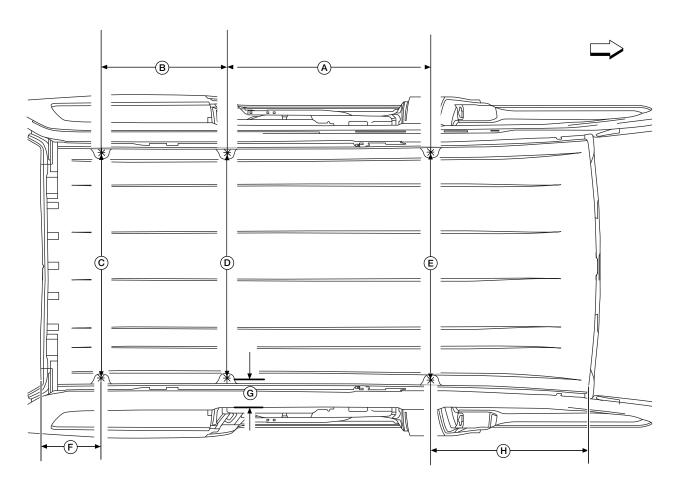


#### **CAUTION:**

Always distribute the cargo evenly on the roof rack. Do not load more than 100 kg (220.5 lbs) for "S" model and 101 kg (220.5 lbs) for "SV" model utilizing all 3 pairs of roof rack mounting points. The maximum load per pair of roof rack mounting points is 33.3 kg (73.4 lbs) for "S" model and 33.6 kg (74.1 lbs) for "SV" model.

The satellite radio antenna (if equipped) is located on the roof. Do not cover the antenna; it may affect the reception of the device.

The factory installed weld nuts are the only NISSAN approved attachment points for the installation of a roof rack. Use bolts for attaching the roof racks.



AAZIA0216ZZ

: Front of vehicle.

#### NOTE:

- Weld nut locations, all bolts are M8 x 1.25.
- For maximum load strength, ensure the bolt thread depth is at least 12 mm (0.5 in) depth.
- Do not exceed a depth of 24 mm (0.9 in) for the two front weld nuts.

A. 1,004 mm (39.5 in)

B. 630 mm (24.8 in)

C. 1,117 mm (44.0 in)

D. 1,113 mm (43.8 in)

E. 1,128 mm (44.4 in)

F. 214 mm (8.4 in)

G. 60.3 mm (2.4 in)

H. 800 mm (31.5 in)



## **CAUTION:**

#### To help prevent water leaks:

- Do not reuse plastic plugs or seals.
- Use High Performance Thread Sealant 999MP-AM002P (available from a NISSAN dealer), or equivalent (Permatex 56521 or Loctite 565) on bolts before installing.

## **SPECIFICATIONS**

#### RECOMMENDED FLUIDS AND LUBRICANTS

**NOTE:**Refer to Service Manual for detailed service procedures.

		Capa	city (Approxi	Decommended Fluids/	
Description		Metric	US measure	Imperial measure	Recommended Fluids/ Lubricants
Fuel		55 liters	14½ gallons	121/8 gallons	Unleaded gasoline with an octane rating of at least 87 AKI (RON 91) *1
Engine oil	With oil filter change	5.1 liters	53/8	4½ quarts	Engine oil with API Certification Mark *2
Drain and refill	Without oil filter change	4.8 liters	5.0 quarts	41/4 quarts	Viscosity SAE 5W-30
Cooling system	(With reservoir at MAX level)	7.6 liters	8 quarts	6¾ quarts	Pre-diluted Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent *3
Coolant reservoir tank		0.7 liters	¾ quarts	% quarts	Pre-diluted Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent *3
Continuously variable transmission (CVT) fluid		8.1 liters	8% quarts	71/4 quarts	Genuine NISSAN CVT Fluid NS-3 *4
Brake fluid		_	_	_	Genuine NISSAN Super Heavy Duty Brake Fluid *5 or equivalent, DOT 3 (US FMVSS No. 116)
Multi-purpose grease		_	_	_	NLGI No.2 (lithium soap base)
Windshield washer fluid		4.5 liters	4¾ quarts	4 quarts	Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent
Air conditioning system refrigerant		450 ±50 grams	0.99 pounds (±0.11 lb)	0.99 pounds (±0.11 lb)	HFC-134a (R-134a) <b>*6</b>
Air conditioning sys	stem oil	150 ±20 milliliters	5.03 ±0.7 ounces	5.3 ±0.7 ounces	A/C System Oil Type S (DH-PS) *6

<sup>\*1:</sup> For further details, refer to Precaution for Fuel (BBG-156).

<sup>\*2:</sup> For further details, refer to Engine Oil Recommendation (BBG-156).

<sup>\*3:</sup> For further details, refer to Engine Coolant Recommendation (BBG-156).

<sup>\*4:</sup> Use only Genuine NISSAN CVT Fluid NS-3. Using transmission fluid other than Genuine NISSAN CVT Fluid NS-3 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.

<sup>\*5:</sup> Available in mainland U.S.A. through a NISSAN dealer.

<sup>\*6:</sup> For further details, see "Air conditioner specification label" on the underside of the hood.

#### **Precaution for Fuel (Unleaded Regular Gasoline Recommended)**

Use unleaded regular gasoline with an octane rating of at least 87 AKI (Anti-Knock Index) number (Research octane number 91).



#### **CAUTION:**

Do not use leaded gasoline. Using leaded gasoline will damage the three-way catalyst. Do not use E-85 fuel (85% fuel ethanol, 15% unleaded gasoline) unless the vehicle is specifically designed for E-85 fuel (i.e., Flexible Fuel Vehicle — FFV Models). Using a fuel other than that specified could adversely affect the emission control devices and systems, and could also affect the warranty coverage validity.

#### **Engine Oil Recommendation**

NISSAN recommends the use of a resource conserving oil in order to improve fuel economy. Select only engine oils that meet the American Petroleum Institute (API) certification and International Lubricant Standardization and Approval Committee (ILSAC) certification and SAE viscosity standard. These oils have the API certification mark on the front of the container. Oils which do not have the specified quality label should not be used as they could cause engine damage.





JSPIA0014ZZ

1. API certification mark

2. API service symbol

#### **Engine Coolant Recommendation**

The engine cooling system is filled at the factory with a pre-diluted mixture of 50% Genuine NISSAN Long Life Antifreeze/Coolant (blue) and 50% water to provide year round antifreeze and coolant protection. The antifreeze solution contains rust and corrosion inhibitors. Additional cooling system additives are not necessary.



#### **WARNING:**

- Never remove the radiator or coolant reservoir cap when the engine is hot. Wait until the engine and radiator cool down. Serious burns could be caused by high pressure fluid escaping from the radiator.
- The radiator is equipped with a pressure type radiator cap. To prevent engine damage, use only a Genuine NISSAN radiator cap.

#### RECOMMENDED FLUIDS AND LUBRICANTS

[SPECIFICATIONS]



### **CAUTION:**

- When adding or replacing coolant, be sure to use only Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent. Genuine NISSAN Long Life Antifreeze/Coolant (blue) is prediluted to provide antifreeze protection to -34° F (-37° C). If additional freeze protection is needed due to weather where the vehicle is operated, add Genuine NISSAN long life Antifreeze/Coolant (blue) concentrate following the directions on the container. If an equivalent coolant other than Genuine NISSAN Long Life Antifreeze/Coolant (blue) is used, follow the coolant manufacturer's instructions to maintain minimum antifreeze protection to -34° F (-37° C). The use of other types of coolant solutions other than Genuine NISSAN Long Life Antifreeze/Coolant (blue) or equivalent may damage the engine cooling system.
- Mixing any other type of coolant other than Genuine NISSAN Long Life Antifreeze/Coolant (blue), including Genuine NISSAN Long Life Antifreeze/Coolant (green), or the use of nondistilled water will reduce the life expectancy of the factory filled coolant.

**BBG** 

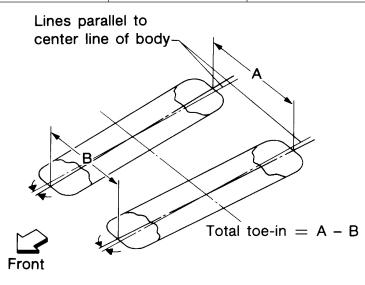
## **SUSPENSION**

## **General Specification (Front)**

Suspension type	Front: independent strut Rear: multi-leaf with solid axle
Shock absorber type	Front: twin tube strut Rear: twin tube
Stabilizer	Front solid stabilizer bar (standard equipment)

#### Front Wheel Alignment (Unladen\*1)

Camber *2		Minimum	-1° 05' (-1.08°)
Degree minute (decimal degree)	LH and RH	Nominal	-0° 20' (-0.33°)
		Maximum	0° 25' (0.42°)
Caster *3		Minimum	3° 25' (3.42°)
Degree minute (decimal degree)	LH and RH	Nominal	4° 10' (4.17°)
		Maximum	4° 55' (4.92°)
Kingpin inclination		Minimum	11° 10' (11.17°)
Degree minute (decimal degree)	LH and RH	Nominal	11° 55' (11.92°)
		Maximum	12° 40' (12.67°)



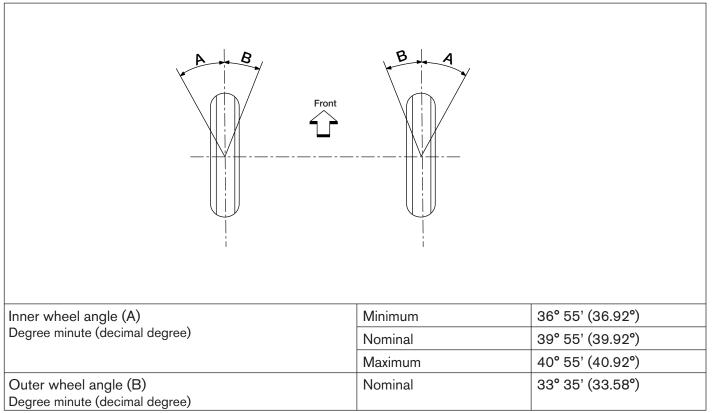
Total toe-in	Total toe-in distance (A - B)	Minimum	Out 1.0 mm (Out 0.039 in)
		Nominal	In 1.0 mm (In 0.039 in)
		Maximum	In 3.0 mm (In 0.118 in)
	Total toe angle (LH and RH)	Minimum	In 0° 01' (0.02°)
	Degree minute (decimal degree)	Nominal	In 0° 06' (0.10°)
		Maximum	In 0° 11' (0.18°)

<sup>\*1:</sup> Fuel, radiator coolant, and engine oil are full. Spare tire, jack, hand tools, and mats are in designated positions.

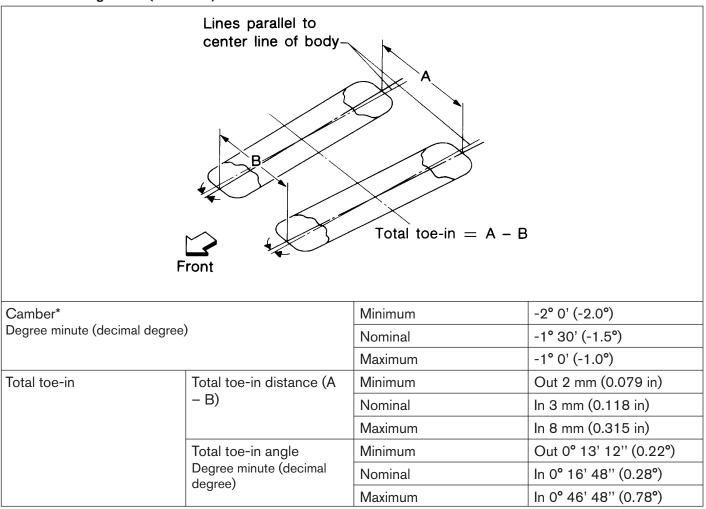
<sup>\*2:</sup> The RH camber angle shall be 0° 0' ±0° 45' (0.0° ±0.75°) with respect to the LH camber angle.

<sup>\*3:</sup> For the caster angle, the difference between right and left against the ground surface shall be  $\pm 0^{\circ}$  45' ( $\pm 0.75^{\circ}$ ) maximum.

#### **Wheel Turning Angle**



#### Rear Wheel Alignment (Unladen\*)

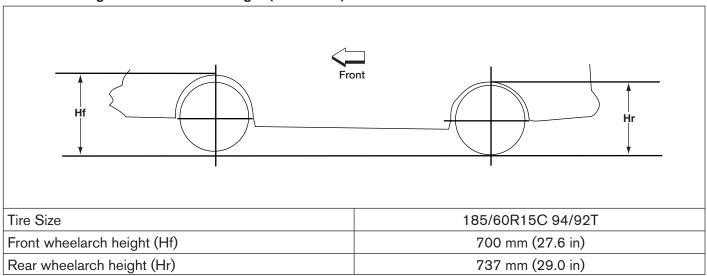


<sup>\*:</sup> Fuel, radiator coolant, and engine oil are full. Spare tire, jack, hand tools, and mats are in designated positions.

#### **General Specification (Rear)**

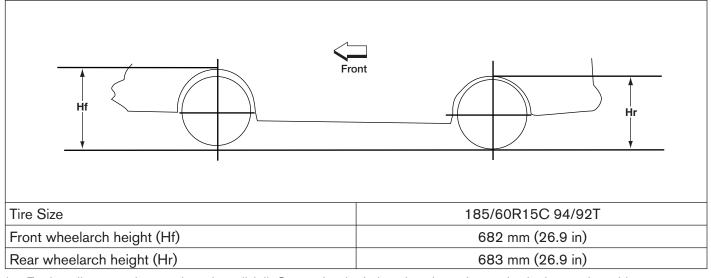
Suspension type	Rigid axle with semi-elliptic leaf spring
Shock absorber type	Double-acting hydraulic

#### Wheelarch Height at Offline Curb Weight (Unladen\* 1)



<sup>\*1:</sup> Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

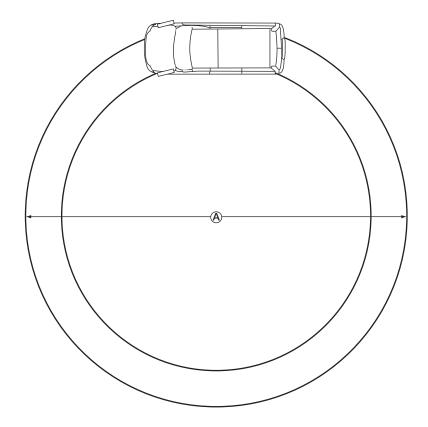
#### Wheelarch Height at Maximum Payload Weight\* 1



<sup>\*1:</sup> Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

## **TURNING RADIUS**

#### **Curb-to-Curb**



AAZIA0062ZZ

A. 11.2 m (36.7 ft)

## WHEEL AND TIRE

#### **Wheels and Tires**

Grade	Road wheel	Tire Size	Spare tire size
S	15V5 5 U Ctool	185/60R15C 94/92T *	185/60R15C 94/92T *
SV	15X5.5JJ Steel	100/00K10C 94/921 "	100/00K10C 94/921 "

<sup>\*</sup> Use commercial (C) rated tires only. Do not use passenger rated tires.

Wheel Dimensions			
Diameter	15 in		
Width	168 mm (6.61 in)		
Offset	45 mm (1.77 in)		
Bolt pattern	5 x 114.3 mm		
Center bore	66 + 0.1 mm / -0.00 mm		
Lug nut thread pitch	M12 X 1.25		
Brake caliper clearance	2.5 mm (0.10)		

## **BULBS**

#### **Exterior Lamp**

Item		Wattage (W)*	Bulb No.*
Front combination lands	Turn signal/parking lamp	28/8	3457 NAK
Front combination lamp	Headlamp low/high	60/55	Halogen H13
	Stop/tail lamp	27/7	3047K
Rear combination lamp	Turn signal lamp	27	3157AK
	Back-up lamp	16	921
High-mounted stop lamp		16	921
License plate lamp		5	T10

<sup>\*</sup> Always check with an authorized NISSAN dealer for the latest parts information.

## Interior Lamp/Illumination

Item	Wattage (W)*	Bulb No.*
Front room/map lamp	5	W5W
Cargo lamp	5	W5W

<sup>\*</sup> Always check with an authorized NISSAN dealer for the latest parts information.

## **BATTERY**

Application →	Standard
Type*	GR21R
Capacity (20 HR) minimum V-AH	12 - 49
Cold Cranking Current A [For reference value at -18°C (0°F)]	470

<sup>\*</sup> Always check with an authorized NISSAN dealer for the latest parts information.

## **ACRONYMS**

ATV

**BCM** 

ACRONYM LIST	
Acronym	Description
2WD	Two Wheel Drive
ABS	Anti-lock Braking System
AC	Alternating Current
A/C	Air Conditioning
AKI	Anti-Knock Index
AM/FM	Amplitude Modulated/Frequency Modulated
API	American Petroleum Institute
ARC	Accessory Reserve Capacity
A/T	Automatic Transmission
AT	Auto Transporter

BT **Bus Trailer** 

CAN Controller Area Network

CAN-H Controller Area Network - High CAN-L Controller Area Network - Low

CD C-Dolly

CG Center of Gravity

**CMVSS** Canadian Motor Vehicle Safety Standards

All-Terrain Vehicle

**Body Control Module** 

**DTCs** Diagnostic Trouble Codes **ECM Engine Control Module** EGI Electronic Gasoline Injection **EPS Electric Power Steering EVAP Evaporative Emission** 

**FCC** Federal Communications Commission (USA)

FFV Flexible Fuel Vehicle

**FMVSS** Federal Motor Vehicle Safety Standards

**FSS** Front Sonar System **GAW** Gross Axle Weight

**GAWR** Gross Axle Weight Rating

**GCWR Gross Combination Weight Rating** 

**GVW** Gross Vehicle Weight

**GVWR** Gross Vehicle Weight Rating

H.S. Harness Side

HSS High Strength Steel

**HVAC** Heating, Ventilation, & Air Conditioning Acronym Description

IC Inflatable Curtain
IDs Identifications

ILSAC International Lubricant Standardization and Approval Committee

IPDM E/R Intelligent Power Distribution Module Engine Room

LDD Load Divider Dolly

MH Motor Home

MIL Malfunction Indicator Light

MPV Multi-purpose Passenger Vehicle

MSDS Material Safety Data Sheet

NHTSA National Highway Traffic Safety Administration

NNA NISSAN North America

OEM Original Equipment Manufacturer
ORVR On-Board Refueling Vapor Recovery
OSHA Occupational Safety and Health Act

RF Radio Frequency

RFI Radio Frequency Interference

RKE Remote Keyless Entry
RPM Revolutions Per Minute

SAE Society of Automotive Engineers

SB School Bus

SgRP Seating Reference Point

SRS Supplemental Restraint System

SUB Second Unit Body
TCD Trailer Converter Dolly

TCM Transmission Control Module

TPS Throttle Position Sensor

TRA Trailer
TRU Truck

TT Truck Tractor

USB Universal Serial Bus
UVW Unloaded Vehicle Weight
VDC Vehicle Dynamic Control

VIN Vehicle Identification Number

VSS Vehicle Speed Sensor

## **CONVERSION CHARTS**

## **METRIC-ENGLISH CONVERSION CHART**

Conversion Unit Type	Indicated Unit		Conversion Coefficie	nt
Length	km (mile)	km	→ mile	: 0.6214
	m (ft)	m	→ ft	: 3.281
	mm (in)	mm	→ in	: 0.03937
Temperature Difference	°C (°F)	°C	→ °F	: 1.8°C + 32
	kg (lb)	kg	→ lb	: 2.205
Mass	g (oz)	g	→ oz	: 0.03527
	111/		$\rightarrow$ kN	: 9.807
	kN (ton, US ton, Imp ton)	ton	→ US ton	: 1.102
	imp ton)		→ Imp ton	: 0.9842
Force	N. (Icas IIa)	l. m	→ N	: 9.807
	N (kg, lb)	kg	→ lb	: 2.205
	N (m. an)	_	→ N	: 0.009807
	N (g, oz)	g	→ oz	: 0.03527
		kg/cm <sup>2</sup>	→ kPa	: 98.07
	kPa (bar, kg/cm <sup>2</sup> , psi)		→ bar	: 0.9807
			→ psi	: 14.22
	kPa (mbar, mmHg, inHg)	mmHg	→ kPa	: 0.1333
Pressure			→ mbar	: 1.333
			→ inHg	: 0.03937
	kPa (mbar, mmH <sub>2</sub> O, inH <sub>2</sub> O)	mmH <sub>2</sub> O	→ kPa	: 0.009807
			→ mbar	: 0.09807
			→ inH <sub>2</sub> O	: 0.03937
Inflation Pressure	kg/cm <sup>2</sup> , (kPa, bar, psi)	kg/cm <sup>2</sup>	→ kPa	: 98.07
			→ bar	: 0.9807
			→ psi	: 14.22
0 1	m/s (ft/s)	m/s	→ ft/s	: 3.281
Speed	km/h (MPH)	km/h	→ MPH	: 0.6214
Cooling / Heating Capacity			→ kW	: 0.001163
	kW (kcal/h, BTU/h)	kcal/h	→ BTU/h	: 3.968
		kW	→ kcal/h	: 859.8
Unbalance	g·cm (oz-in)	g⋅cm	→ oz-in	: 0.01389

## **METRIC-ENGLISH CONVERSION CHART**

## [CONVERSION CHARTS]

Conversion Unit Type	Indicated Unit		Conversion Coefficien	on Coefficient	
Torque	N·m (kg-m, ft-lb, in-lb)	kg-m	→ N·m	: 9.807	
			→ ft-lb	: 7.233	
			→ in-lb	: 86.80	
	N⋅m (kg-cm, in-lb)	kg-cm	→ N·m	: 0.09807	
			→ in-lb	: 0.8680	
Volume	<fluid> ℓ (US gal,</fluid>	ł	→ US gal	: 0.2642	
	Imp gal)		→ Imp gal	: 0.2200	
	ℓ (US qt, Imp qt)		→ US qt	: 1.057	
			→ Imp qt	: 0.8801	
	ℓ (US pt, Imp pt)		→ US pt	: 2.114	
			→ Imp pt	: 1.760	
	<fluid> ml (US fl oz, Imp fl oz)</fluid>	ml	→ US fl oz	: 0.03381	
			→ Imp fl oz	: 0.03520	
	<displacement> cm <sup>3</sup> /(cu in)</displacement>	cm <sup>3</sup>	→ cu in	: 0.06102	
Spring Constant	N/mm (kg/mm, lb/in)	kg/mm	→ N/mm	: 9.807	
			→ lb/in	: 56.00	

## **INCH-MILLIMETER EQUIVALENTS CHART**

Fraction inches	Decimal inches	Metric mm
1/64	0.015625	0.39688
1/32	0.03125	0.79375
3/64	0.046875	1.19062
1/16	0.0625	1.58750
5/64	0.078125	1.98437
3/32	0.09375	2.38125
7/64	0.109375	2.77812
1/8	0.125	3.1750
9/64	0.140625	3.57187
5/32	0.15625	3.96875
11/64	0.171875	4.36562
3/16	0.1875	4.76250
13/64	0.203125	5.15937
7/32	0.21875	5.55625
15/64	0.234375	5.95312
1/4	0.250	6.35000
17/64	0.265625	6.74687
9/32	0.28125	7.14375
19/64	0.296875	7.54062
5/16	0.3125	7.93750
21/64	0.328125	8.33437
11/32	0.34375	8.73125
23/64	0.359375	9.12812
3/8	0.375	9.52500
25/64	0.390625	9.92187
13/32	0.40625	10.31875
27/64	0.421875	10.71562
7/16	0.4375	11.11250
29/64	0.453125	11.50937
15/32	0.46875	11.90625
31/64	0.484375	12.30312
1/2	0.500	12.70000

Fraction inches	Decimal inches	Metric mm
33/64	0.51625	13.09687
17/32	0.53125	13.49375
35/64	0.546875	13.89062
9/16	0.5625	14.28750
37/64	0.578125	14.68437
19/32	0.59375	15.08125
39/64	0.609375	15.47812
5/8	0.625	15.87500
41/64	0.640625	16.27187
21/32	0.65625	16.66875
43/64	0.671875	17.06562
11/16	0.6875	17.46250
45/64	0.703125	17.85937
23/32	0.71875	18.25625
47/64	0.734375	18.65312
3/4	0.750	19.05000
49/64	0.765625	19.44687
25/32	0.78125	19.84375
51/64	0.796875	20.24062
13/16	0.8125	20.63750
53/64	0.828125	21.03437
27/32	0.84375	21.43125
55/64	0.859375	21.82812
7/8	0.875	22.22500
57/64	0.890625	22.62187
29/32	0.90625	23.01875
59/64	0.921875	23.41562
15/16	0.9375	23.81250
61/64	0.953125	24.20937
31/32	0.96875	24.60625
63/64	0.984375	25.00312
1	1.00	25.40000