

HONDA

Emergency Response Guide

Honda CNG Vehicle

CIVIC

GX

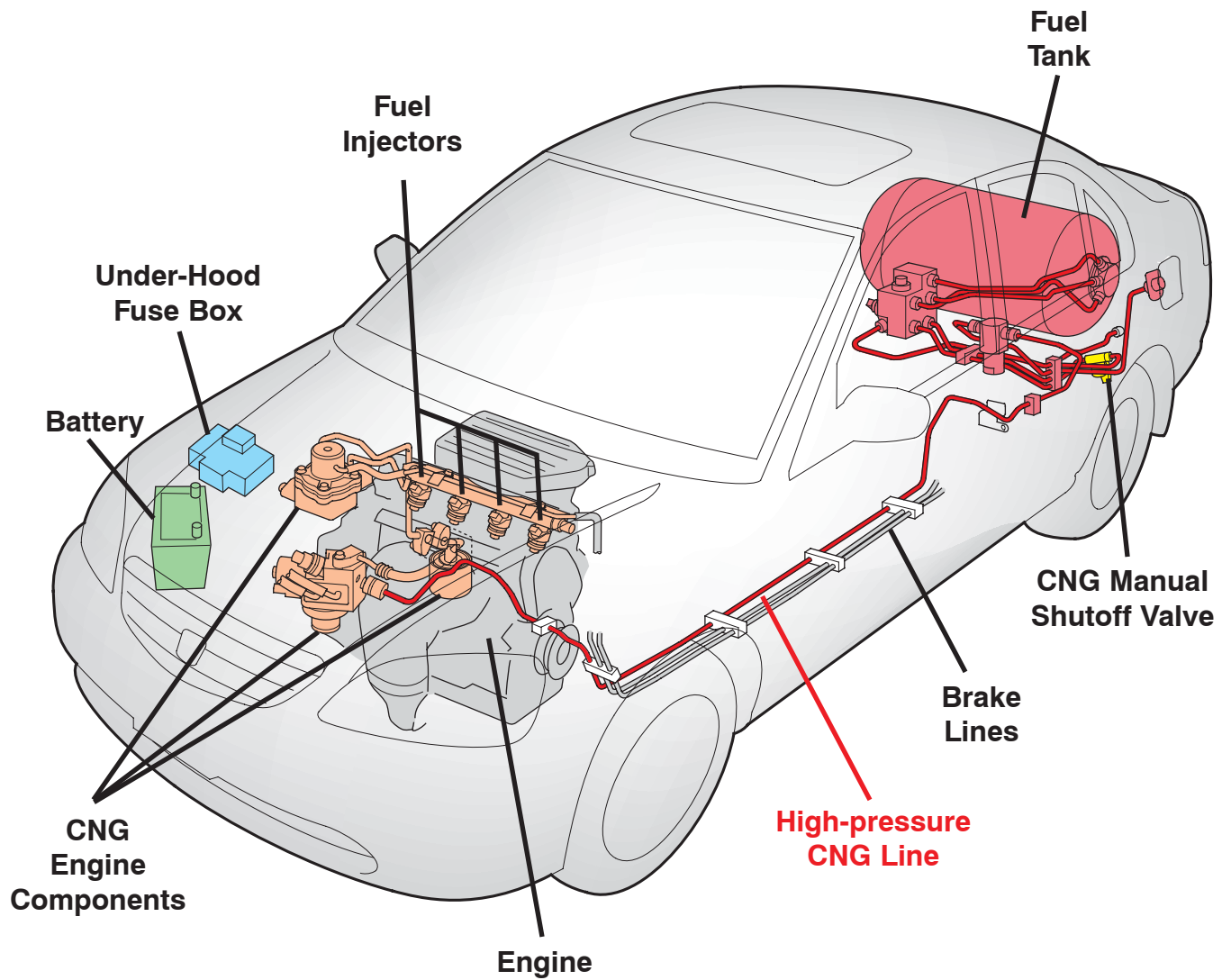


**Prepared for Fire Service, Law Enforcement, Emergency Medical, and Professional
Towing Personnel by American Honda Motor Co., Inc.**

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Key Components



Vehicle Description



CNG Label



NGV Label



Fuel Tank

Removable
Divider

Type, Size, and Appearance

The Civic GX is a four-door, four-passenger car with a conventional internal combustion engine fueled by compressed natural gas (CNG). The GX is identical in appearance to the gasoline-powered Civic 4-door except for these identifying marks:

- A blue-and-white CNG label near the trunk lock
- A green NGV (Natural Gas Vehicle) label on each rear door

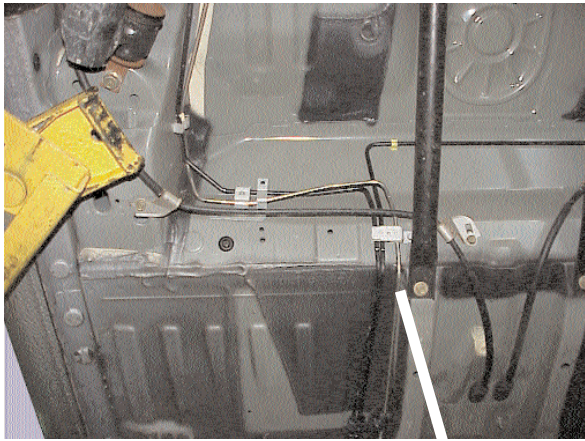
Curb Weight

The Civic GX curb weight is 2,729 lb (1,238 kg).

Fuel Tank

The fuel tank is in the trunk, behind a removable divider that separates it from the cargo area. The 36.6-inch-long (927 mm) and 18-inch-diameter (460 mm) tank is securely mounted between two frames attached to the trunk floor. The tank is made of flame-resistant materials and certified to have passed rigid dropping, bullet-impact, and crash tests.

The natural gas in the tank is compressed up to 3,600 psi. Fuel capacity is equivalent to 8 gallons of gasoline.



High-pressure CNG Line

High-pressure CNG Line

Compressed natural gas (CNG) flows from the fuel tank to the engine through a stainless-steel, high-pressure CNG line that is visible under the driver's side of the car. The high-pressure CNG line is certified to an internal pressure of 10,000 psi.



Engine

In the engine compartment, CNG pressure is reduced to about 40 psi. At this pressure, the CNG flows into the engine through the four fuel injectors.



12-Volt Battery

Battery

A conventional 12-volt battery is located under the hood, on the passenger's side of the car. This battery powers the lights, audio system, airbags, seat-belt tensioners, and other standard electronics. It also powers a solenoid valve inside the fuel tank (see [page 4](#)).

Built-In Safety Features

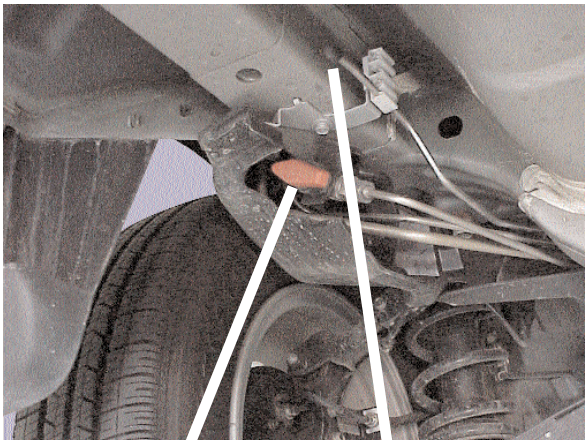
Occupant Protection Features

The Civic GX has lap/shoulder belts in all four seating positions, dual front airbags, and pyrotechnic seat belt tensioners for the driver and a front passenger. Some models also have side airbags. To disable the airbags and tensioners, the ignition switch must be in the LOCK (0) position for at least 3 minutes, or the battery must be disconnected for at least 3 minutes.

CNG Safety Features

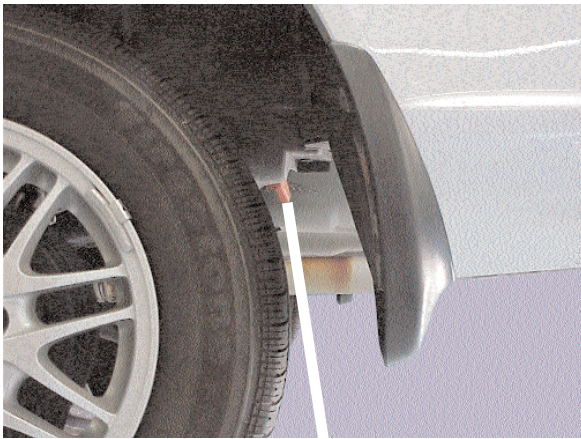
The fuel tank has an internal solenoid valve that automatically shuts off the flow of CNG whenever the ignition switch is in the LOCK (0) or ACCESSORY (I) position, or when one of several sensors in the fuel system detects a significant fuel leak.

The fuel tank also has an internal pressure relief device to release all CNG if the temperature in the tank exceeds 216°F (102°C). When this device is activated, the CNG is routed out of the car through a pressure relief outlet on the right of the CNG manual shutoff valve.



**CNG Manual
Shutoff Valve**

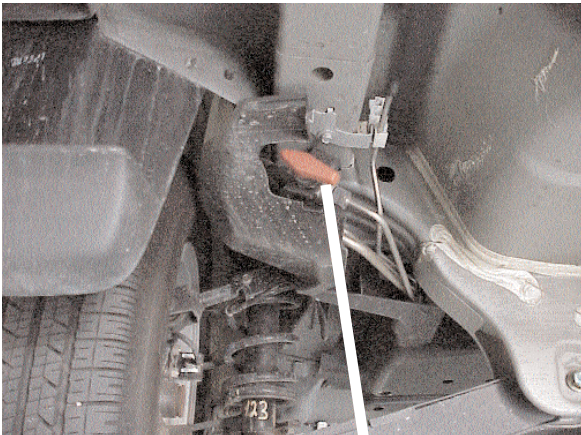
**Pressure
Relief Outlet**



**CNG Manual
Shutoff Valve**

CNG Manual Shutoff Valve

The Civic GX has a CNG manual shutoff valve to stop the flow of CNG from the fuel tank. The red handle of the valve is on the bottom of the car, near the left rear tire and the splash guard.



**CNG Manual
Shutoff Valve**

To access the handle, reach through the space between the left rear wheel and the splash guard. To stop the flow of CNG, turn the handle one-quarter turn clockwise.

Potential Hazards

The Civic GX does not present any greater hazards than a conventional gasoline-powered vehicle. It received a five-star rating for frontal impacts from the National Highway Traffic Safety Administration, and it was rated good in side- and rear-impact crash tests. As a fuel, CNG also has a long record of safe use in private, corporate, and government vehicles.

Flammable Fluids

The Civic GX carries far less flammable fluids than gasoline-powered passenger vehicles. Fluid capacities are

Engine Oil: 3.7 quarts (3.5 Liters)
Transmission Fluid: 5.9 quarts (5.6 Liters)

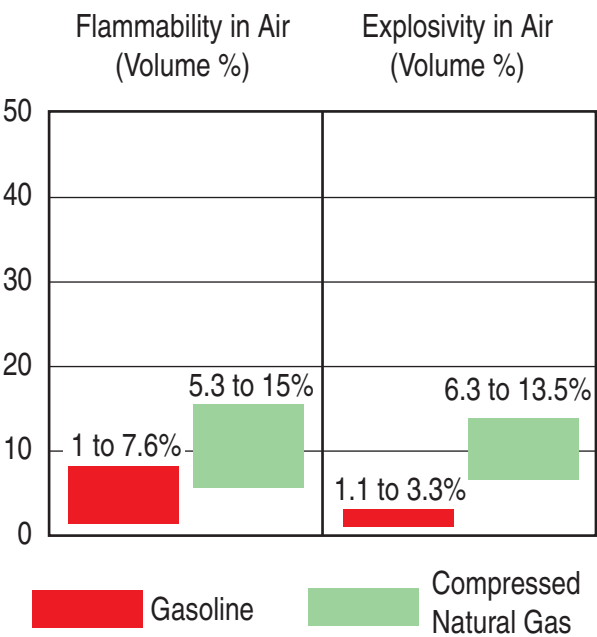
Compressed Natural Gas

The CNG used in the Civic GX is a nontoxic gas that cannot spill and cannot contaminate the ground water.

Like other fuels, however, CNG is both flammable and explosive. As illustrated in the graph, when mixed with air, CNG has much higher flammability and explosivity limits than gasoline. Its ignition temperature is also very high (1,200°F), twice as high as gasoline.

To reduce the chance of CNG leakage, the Civic GX has many built-in safety features to help contain the fuel, detect a leak, and automatically shut off fuel flow if a leak is detected (see [pages 4-5](#)). As with the natural gas used in homes and industry, an odor is added to the CNG that helps you detect a leak before it can become a problem.

Since CNG is much lighter than air, a leak occurring in an open area would quickly rise and dissipate into the atmosphere. In an enclosed space, CNG would collect in the uppermost areas.



Emergency Procedures

Based on discussions with rescue professionals, we recommend that emergency response personnel follow standard procedures developed by their own organization for assessing situations and dealing with potential hazards. Given our knowledge of the Civic GX, we also recommend the procedures outlined in this section.

Incidents Involving Fire

If a Civic GX is involved in a fire, follow standard fire-fighting procedures, but *keep away from the rear of the car until the fire is completely out*. Remember that high temperatures can cause all CNG in the fuel tank to be released through the pressure relief outlet at the left rear of the car (see [page 4](#)).

Damaged Vehicle

Before attempting to rescue occupants from a damaged car, or before moving it, you must stop the flow of CNG and turn off the engine.

You have three ways to do this, ranging from the best method to the least desirable:

Best method for stopping CNG flow and turning off the engine:

Turn off the ignition switch, and remove the key (see [page 8](#)).

Second-best method for stopping CNG flow and turning off the engine:

Remove the main fuse, and disconnect the battery negative cable (see [page 8](#)).

Least-desirable method for stopping CNG flow and turning off the engine:

Turn off the CNG manual shutoff valve (see [page 10](#)).

Best Method for Stopping CNG Flow and Turning Off the Engine

Turn off the ignition switch, and remove the key.

Turning off the ignition switch automatically shuts off the flow of CNG from the fuel tank. It also turns off power to the airbags and the seat belt tensioners within 3 minutes.

To use this method, turn the ignition switch to the LOCK (0) position, and remove the key. (Removing the key prevents the vehicle from being inadvertently restarted.)

Second-Best Method for Stopping CNG Flow and Turning Off the Engine

Remove the main fuse, and disconnect the battery negative cable.

This method should be used if the ignition switch is in the ON (II) position, you cannot reach the key or the CNG manual shutoff valve, but you can reach under the hood.

Removing the main fuse shuts off the flow of CNG from the fuel tank and turns off the engine. Disconnecting the battery negative cable cuts power to the airbags and the seat belt tensioners within 3 minutes. It also prevents the engine from being restarted.

To use this method, do this:

1. Open the hood. On the passenger's side of the car, locate the under-hood fuse box and the battery.



**Under-Hood
Fuse Box**

Battery



Main Fuse

2. Remove the fuse box cover, and locate the main fuse.
3. Remove the screws from the main fuse with a Phillips screwdriver, then remove the main fuse.



**Negative
Terminal**

4. Disconnect the negative terminal from the battery with a 10 mm wrench or pliers.

Least-Desirable Method for Stopping CNG Flow and Turning Off the Engine

Turn off the CNG manual shutoff valve.

This method does not disable the airbags or the seat belt tensioners. It should be used only if the engine is running, you cannot reach the key, and you cannot reach under the hood.

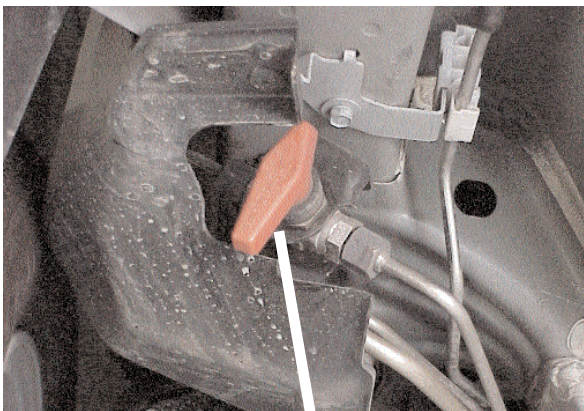
Turning off the CNG manual shutoff valve immediately stops the flow of CNG from the fuel tank. The engine will stop within 1 minute of turning off the valve.

To use this method, do this:

1. Locate the red handle of the CNG manual shutoff valve. It's on the bottom of the car, near the left rear tire and the splash guard.
2. Turn the handle one-quarter turn clockwise to stop the flow of CNG.



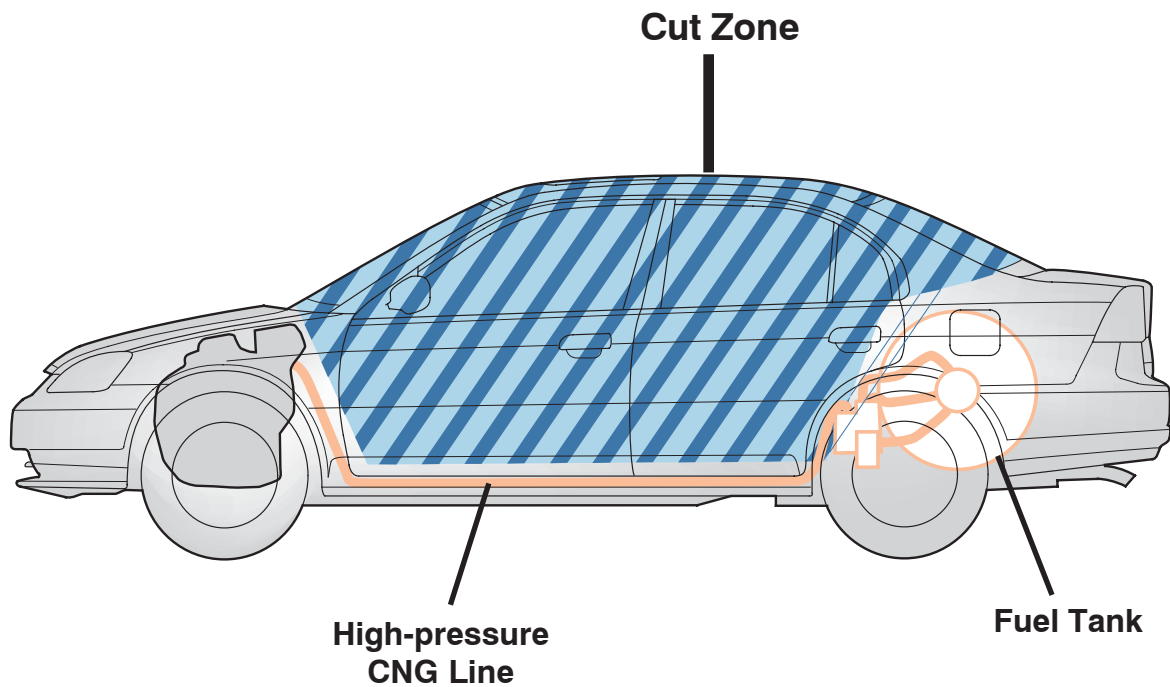
CNG Manual Shutoff Valve



**CNG Manual Shutoff Valve
in Off Position**

Extricating Occupants

If you need to break windows, cut into the body, or use “Jaws of Life”-type equipment to remove occupants from a damaged car, be sure to stay within the cut zone (the area on the illustration with light blue/dark blue diagonal lines).



Towing

If you need to move the Civic GX only a short distance, such as to the side of the road, and it can still roll on the ground, the easiest way is to shift the transmission to neutral, then push the car manually.

The preferred method for transporting the Civic GX away from an emergency location is on a flatbed truck.

If a flatbed is not available, wheel-lift equipment may be used, preferably with the front wheels lifted. If the rear wheels must be raised, set the parking brake, and shift the transmission to neutral before towing.

