

INSIGHT

***IMA Technical Information and
Emergency Handling Guide***



Contents

Contents.....	1
The purpose of this guide	2
A few words about safety	2
How to identify the Honda Insight.....	2
Vehicle Specifications	3
Vehicle specifications Vehicle types, dimensions and performance.....	3
Engine.....	3
Motor	3
Main battery for motive power [IMA battery]	3
Auxiliary battery.....	3
Vehicle precautionary procedures.....	4
High voltage components	4
Steps to deal with a vehicle damaged in a collision or other accident	4
IMA handling procedures	5
General precautions.....	5
Dealing with a vehicle damaged in a collision or other accident	6
Items required for emergency work.....	6
On-the-spot working procedure	6
Recycling of the IMA battery	7
IMA system precautionary procedures	7
How to turn off the main switch.....	7
IMA battery residual life indication after replacement of 12V Battery.....	8
Automatic idle stop system	8
Jump starting –when 12V battery is dead	8
Towing.....	9
Locations of eyebolt, towing hook and tie – down slot.....	10

The purpose of this guide

This guide is designed to help emergency response professionals identify the new Honda Insight hybrid and to aid in responding to incidents involving this vehicle.

This guide is designed to be used as an information resource and should not be taken as a training or diagnostic guide. Training and familiarity of the Insight IMA system is vital before attempting any of the procedures outlined in this guide – **DO NOT** carry out any of the procedures described unless you have first received appropriate training.

Should you require further information or additional copies of this guide, please contact your local Honda dealer or call **xxxx xxx xxx**. Thank you for your time and effort in adhering to the procedures described in this guide and ensuring the safety of Honda customers, the general public and yourselves.

A few words about safety

This guide contains three different forms of safety messages to indicate instructions that must be observed to ensure your safety when handling the Insight:

⚠ DANGER

You **WILL** be **KILLED** or **SERIOUSLY HURT** if you don't follow these instructions.

⚠ WARNING

You **CAN** be **KILLED** or **SERIOUSLY HURT** if you don't follow these instructions.

⚠ CAUTION

You **CAN** be **HURT** if you don't follow these instructions.

Please read and observe all safety information carefully.

How to identify the Honda Insight

The Insight is a distinct-looking vehicle that is easily identifiable easily by its aerodynamic design. It also has the name Insight and an IMA hybrid label on the rear of the vehicle.



Vehicle Specifications

Vehicle specifications Vehicle types, dimensions and performance

- Types: Four wheel, small passenger car (4-door hatch back)
- Dimensions: Overall length 4,390 mm; overall width 1,695 mm
- Overall height 1,425 mm, wheel base 2,550 mm
- Vehicle weight: 1,190 kg (G, L type) 1,200 kg (LS type)
- Fuel consumption rate 10.15 mode: 30 km/l (G, L type) 28 km/l (LS type) JCO8 mode: 26 km/l (G, L type) 24 km/l (LS type)
- Seating capacity: 5 persons

Engine

- Type: Water-cooled, in-line 4-cylinder i-VTEC (VCM)
- Piston displacement: 1,339 cc
- Maximum output: 65 KW (88PS)/5,800 rpm
- Maximum torque: 121 N·m (12.3 kg·m)/4,500 rpm

Motor

- Type: Alternating current synchronous motor (thin DC brushless motor)
- Maximum output: 10 KW (14PS)/1,500 rpm
- Maximum torque: 78 N·m (8.0 kg·m)/1,000 rpm

Main battery for motive power [IMA battery]

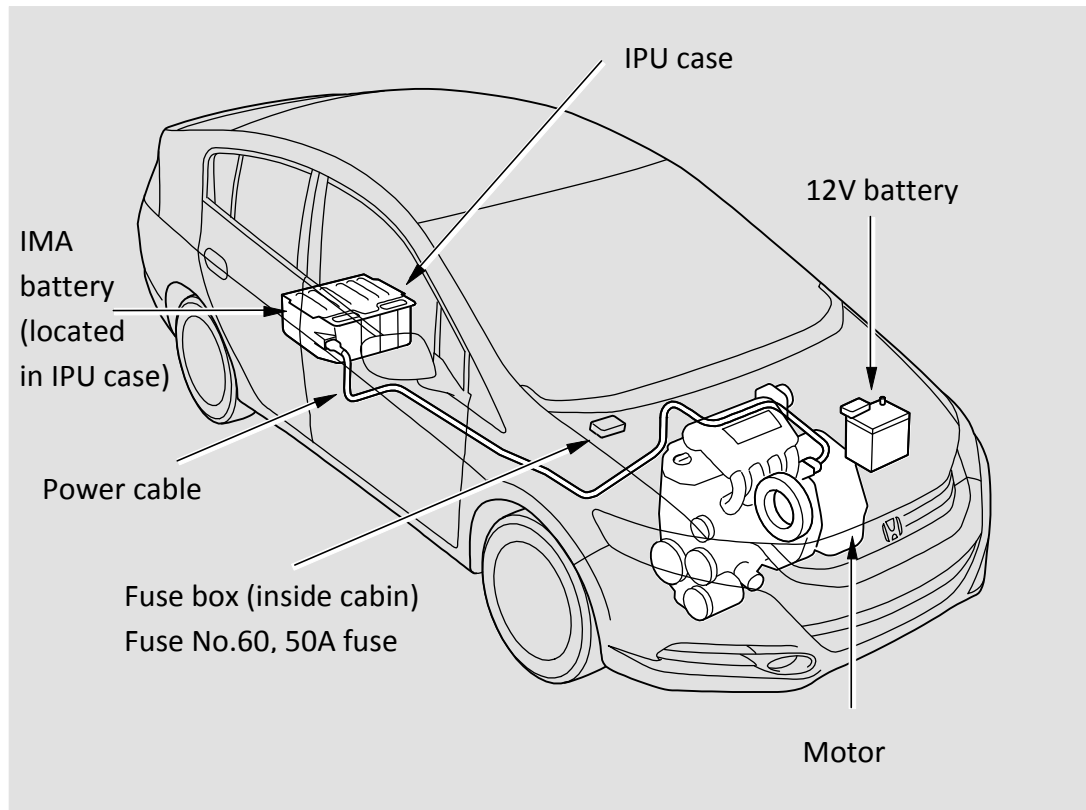
- Type: Nickel-hydrogen battery
- Rated voltage: 100.8V


Auxiliary battery

- Type: Sealed lead-acid accumulator
- Rated voltage: 12V

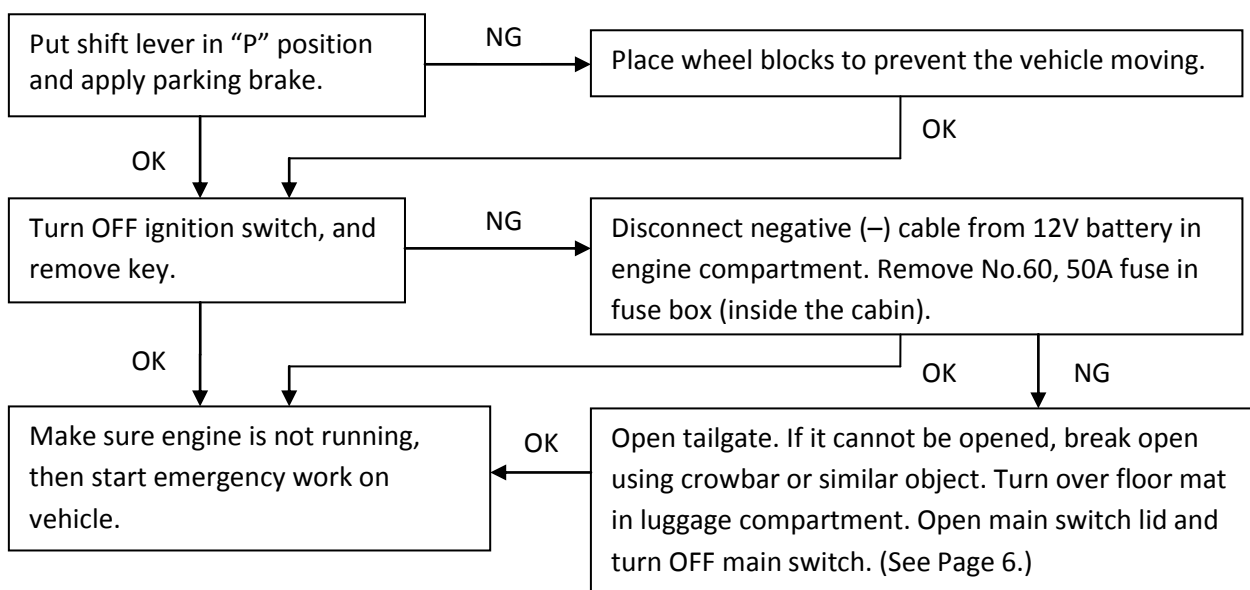
Vehicle precautionary procedures

High voltage components



Items shown in white indicate where high voltage parts are located. High voltage components are marked with . The high voltage circuit wiring harness is coloured orange.

Steps to deal with a vehicle damaged in a collision or other accident



IMA handling procedures

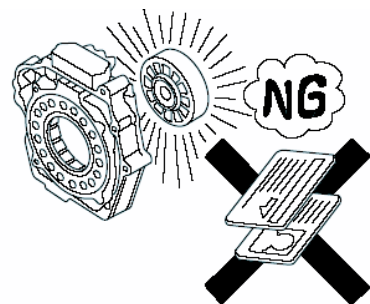
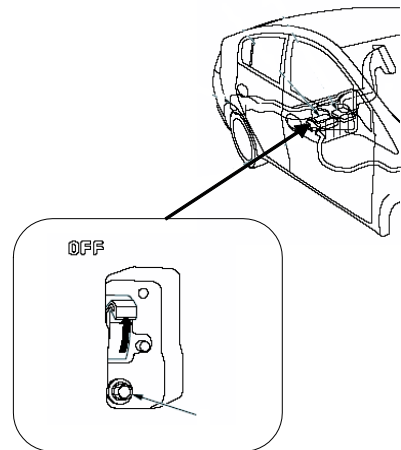
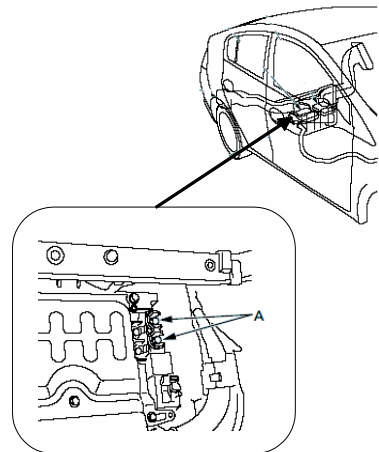
General precautions

The IMA (integrated motor assist) system incorporates a high voltage (DC100.8V) circuit. This circuit must be cut off and insulated before conducting any inspection or servicing of the vehicle to ensure safety.

The high voltage circuit wiring harness and cover are coloured orange. High voltage components are caution-labelled. Do not touch any of these parts unless absolutely necessary.

When checking and servicing the IMA system, follow the instructions below:

- Unless otherwise necessary, remove the ignition key from the ignition.
- Wear insulated gloves and use insulated tools during work. Before using insulated gloves, check them for pinholes and tears.
- Before starting work, turn the main switch OFF and check that the bolt (A) is visible.
- Only begin work on the vehicle once the main switch has been turned off for at least five minutes (The capacitor takes about 5 minutes to discharge).
- Before disconnecting wires from the high voltage terminals, check that voltage (A) between the terminals is less than 30V using a tester.
- After high voltage wires, bus bar, etc. are disconnected, insulate with insulating tape for safety.
- When working on non-insulating coated parts, use insulated tools to prevent short-circuiting.
- As high voltage and highly magnetic parts are used, do not carry any metallic product that may cause short-circuiting on you during work. The same is true of magnetic record carriers (prepaid cards, cash cards, etc.) that may be damaged by the magnetic field. People wearing any electronic medical devices, such as pace makers, are absolutely prohibited from working on the IMA system due to the risk to their safety.



Dealing with a vehicle damaged in a collision or other accident

The IMA system is a high voltage (DC100.8V) device using strong alkaline potassium hydroxide as the electrolyte for the IMA battery. Mishandling could cause a serious injury, such as electric shock or burns. Work must be carried out in accordance with the requirements and procedures specified below.

Items required for emergency work

- Protectors (insulated or rubber gloves, goggles and safety shoes)
- Saturated boric acid solution, 20 litres (prepared by mixing 800 g of powdery boric acid with 20 litres of water in a container)*
- Red litmus paper *
- ABC fire extinguisher (usable against both oil and electric fires)
- Waste cloth or shop towel (for use to wipe off electrolyte)
- Insulating tape
- Voltmeter

* Boric acid and litmus paper are available at drugstores.

On-the-spot working procedure

- Wear insulating or rubber gloves, goggles and safety shoes.
- Do not touch any bare wires unclear as to whether or not they carry high voltage. When you know you will have to touch them or may touch them accidentally during work, wear insulating gloves and measure wire-to-body ground voltage with a tester before insulating the wires with insulating tape.
- If the vehicle is on fire, put out the fire with the ABC fire extinguisher. Attempting to put out the fire with a small quantity of water could result in further aggravating the flames. Use a large quantity of water sourced from a hydrant against the fire or wait for the arrival of fire-fighters.
- If the vehicle is in water, there is the danger of receiving an electric shock. Do not touch high voltage system parts and wires. Wait until the vehicle is completely out of water before starting work.
- Check for liquid leakage on or around the IMA battery. If there is liquid present, do not touch it as it may be a strong alkaline electrolyte. If you must come into contact with it, wear rubber gloves and goggles, neutralize the liquid with saturated boric acid solution and make sure that red litmus paper does not turn blue before wiping off the liquid with a piece of waste cloth or the like.

⚠ DANGER

If the electrolyte comes in contact with your skin, it may cause burns. If it comes into contact with your eyes, you risk partial or total blindness.

Should the electrolyte come in contact any unprotected part of your body, wash it off with a large quantity of water and go to a doctor for medical examination and treatment immediately.

Recycling of the IMA battery

As the IMA battery is recyclable, do not discard it. Be sure to hand spent batteries over to a designated recycle business operator in accordance with the IMA Battery Recovery Manual.

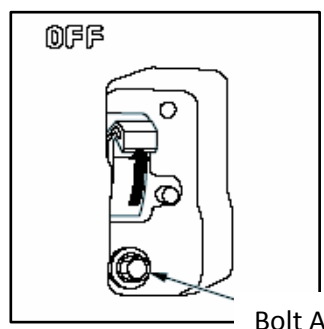
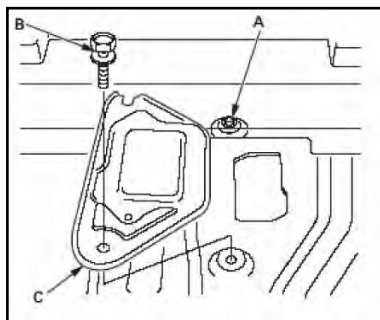
IMA system precautionary procedures

⚠ CAUTION

Prior to working on the IMA system, turn off the main switch to cut off the electric circuit. Removing the cargo floor box on the luggage compartment floor exposes the main switch lid.

How to turn off the main switch

1. Remove the ignition key.
2. Remove the cargo lid and cargo floor box from the luggage compartment floor.
3. Loosen bolt A and remove the bolt B.
4. Remove the lid (C) from the main switch.



5. Turn the main switch off by holding the switch release button down and moving the switch to the OFF position. Check that the bolt (A) is seen.

IMA battery residual life indication after replacement of 12V Battery

After a dead 12V battery is replaced or a battery cable is disconnected, the IMA battery residual life indicator will not indicate the remainder of battery life even if the engine is started. In this case, driving the vehicle for around 30 minutes will bring the indicator back to normal.

Automatic idle stop system

The vehicle is equipped with an automatic idle stop system that automatically stops the engine when the vehicle is stopped.

- With the shift lever in the “D” position, stopping the vehicle from a vehicle speed over 12km/h with the brake pedal left depressed activates the system to stop the engine.
- If the system is activated, release the brake pedal, and the engine will restart. The engine will restart even if the brake pedal is depressed but the select lever is put into the “L” or “R” position.

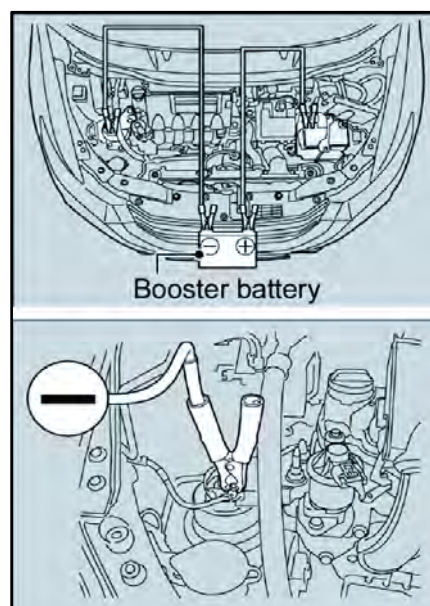
Jump starting –when 12V battery is dead

Description of jump starting: “Jump starting” is an emergency procedure to start the engine by temporarily feeding it electricity using a booster cable connected from a 12V battery of another vehicle to the discharged battery.

How to jump start the engine First open the hood and check the condition of the 12V battery in your vehicle. If the electrolyte is frozen, the engine cannot be jump started until the electrolyte has melted. Turn off all the accessory units such as audio equipment and lights. Fasten the booster cable to the battery firmly by its clips so that it does not move during engine vibrations. Make sure that the cable is not tangled when connecting.

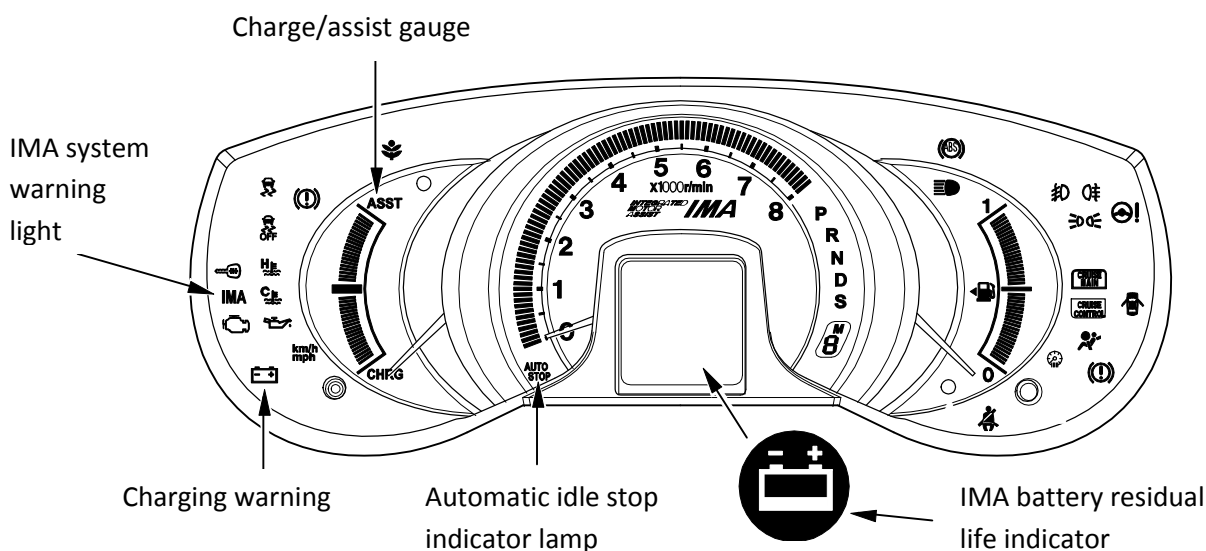
Connect the booster cable in the following sequence:

1. Connect one end of the cable to the positive (+) terminal of the discharged battery in your vehicle.
2. Connect the other end of the cable to the positive (+) terminal of the 12V battery in the other vehicle. The other vehicle must have a 12V battery.
3. Connect one end of another booster cable to the negative (–) terminal of the 12V battery in the other vehicle.
4. Connect the other end of the cable to the grounding terminal of the engine in your vehicle.
5. Start the engine of the other vehicle. Rev up a little.
6. Start the engine of your vehicle.
7. Disconnect the booster cables in the reverse order of connection.



⚠ WARNING

Only jump start a vehicle following the sequence as described. Jump starting using a wrong sequence can cause the 12V battery to burst, resulting in serious damage. Keep lit cigarettes, sparks and naked flames away from the 12V battery during jump starting.



If the 12V battery is dead, starting the engine will not allow the IMA battery residual life indicator (BAT) to read correctly. In this case, run the engine for around 30 minutes to bring the indicator back to normal.

Towing

If your vehicle is to be towed, pay careful attention to the following points:

- Do not use any other part than eyebolt to hitch the towing rope on to. (Eyebolt is for emergency use only.)
- Do not tow the vehicle in such a way that it will be damaged.
- Limit the towing distance to within 80 km at a vehicle speed below 30 km/h (except when the vehicle is towed with four wheels lifted up).
- Do not lift up the vehicle by its bumper.
- When the front and rear wheels are not free to move, tow the vehicle with four wheels lifted up.
- If the gear cannot be put into neutral, tow the vehicle with four wheels lifted up.
- Tow the vehicle in accordance with Road Traffic Law.

Tow the vehicle in accordance with the table below:

Towing method	Shift position	Requirements or precautions
Towing with rope	"N" position	Set ignition switch to ACC (I) or ON (II). Release parking brake. Check that CVT fluid level is between upper and lower limit lines of level gauge. (If fluid level is below the lower limit, tow with front wheels lifted up.)
Towing with front wheels up	"N" position	Release parking brake.
Towing with four wheels up	"P" position	Hold vehicle in place. Apply parking brake.
Towing by wrecker	"N" position	Release parking brake.

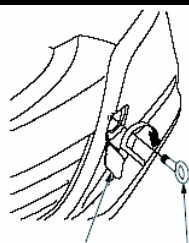
Locations of eyebolt, towing hook and tie – down slot

In case of emergency –

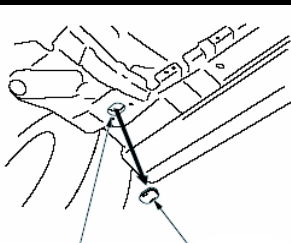
- If your vehicle is stuck, in a ditch for example, pull it out with a rope hitched on its eyebolt or towing hook.
- When using the towing hook, cover the bumper and lip spoiler with waste cloth to protect against damage from direct rope contact.

Front

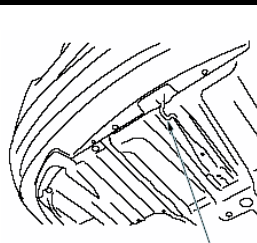
Rear



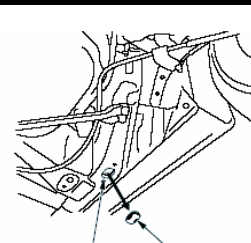
Front lid Eyebolt



Front tie-down slot Hole plug



Rear towing hook



Rear tie-down slot Hole plug

The contents of this manual are subject to change without notice.