



2014 Accord Plug-In & Hybrid: New Model Body Repair Information

DISCLAIMER: This publication contains a summary of new body and vehicle technology that may affect collision and other body repairs. Always refer to the appropriate service and body repair manuals for complete repair information. A subscription may be purchased at: techinfo.honda.com

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MODEL IDENTIFICATION

Both of these 4-door sedan models can operate using:

- Full electric propulsion (EV Drive)
- Gasoline engine propulsion
- Combination of electric and gasoline propulsion (Hybrid Drive)

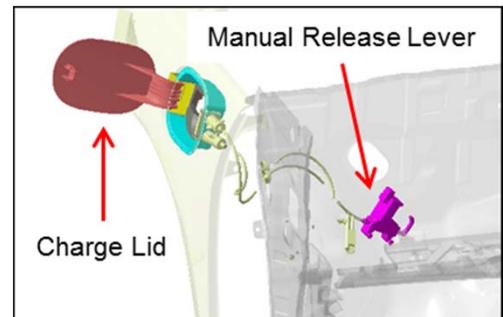
The Accord Plug-In has a larger battery pack and plug-in charging capability, allowing it to travel further on EV Drive alone.

IDENTIFYING ACCORD PLUG-IN MODELS

- Available at select New York and California Honda dealers.
- Charge lid located on left front fender ahead of driver's door.
NOTE: A manual release lever is located under the lower left corner of the dashboard if you cannot open the charge lid using the electric release button.
- Unique grille and bumper design for Plug-In model.
- Plug-In HYBRID badges on the front fenders and trunk lid.
- Orange high voltage cables under the hood

IDENTIFYING ACCORD HYBRID MODELS

- Available Nationwide.
- Unique grille and bumper design for Hybrid model.
- HYBRID badges on the front fenders and trunk lid.
- Orange high voltage cables under the hood.



Accord Plug-In Charge Lid & Manual Release Lever

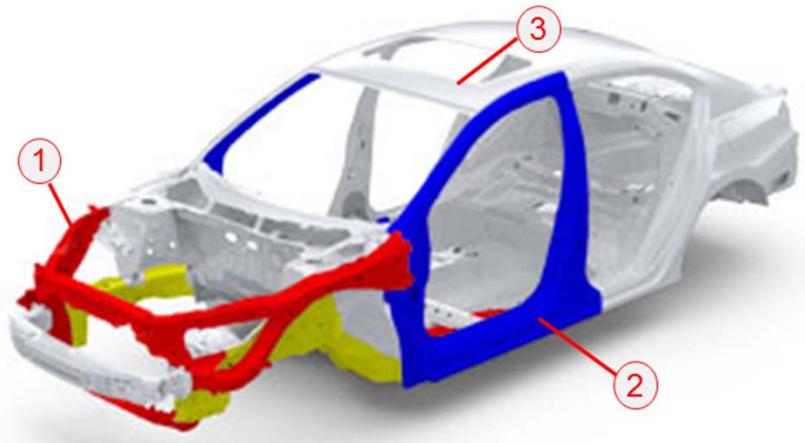


Accord Plug-In Identification Badge



Accord Hybrid Identification Badge

OVERVIEW OF BODY FEATURES



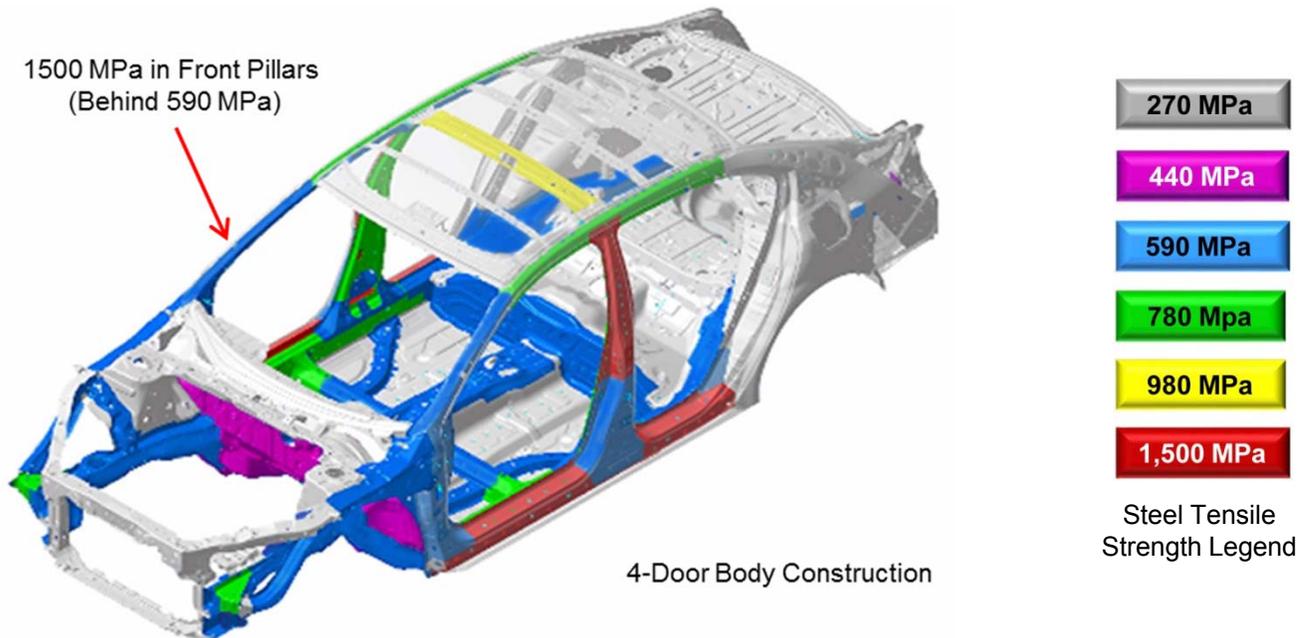
1. Next-Generation Advanced Compatibility Engineering™ (ACE™) body structure.
2. Extensive use of high tensile strength steel (55.8%), including 17.2% in grades 780, 980, and 1,500 MPa.
3. Roof panel assembly with integrated roof rail and roof arch extensions.

New Model Body Technology

BODY CONSTRUCTION AND HIGH STRENGTH STEEL CONTENT

- Steel parts are color-coded based on their tensile strength in megapascals (MPa).
- High strength steel is defined as any steel with a tensile strength of 340 MPa or higher.
- Steel repair and welding procedures vary depending on the tensile strength of the parts involved.

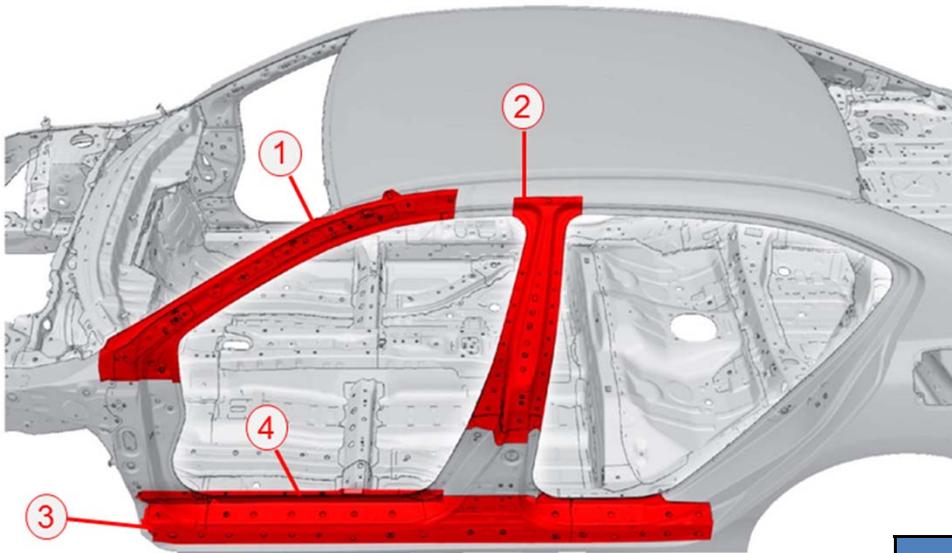
NOTE: These illustrations are of the base Accord and are for general reference only. Some body parts, such as the front pillars, are constructed from multiple layers of different tensile strength steels. Always refer to the body repair manual body construction section for specific steel tensile strength information.



1,500 MPa (HOT STAMP) STEEL LOCATIONS

1,500 MPa steel is stronger than ordinary steel, so it can help protect vehicle occupants while reducing overall vehicle weight to improve fuel efficiency.

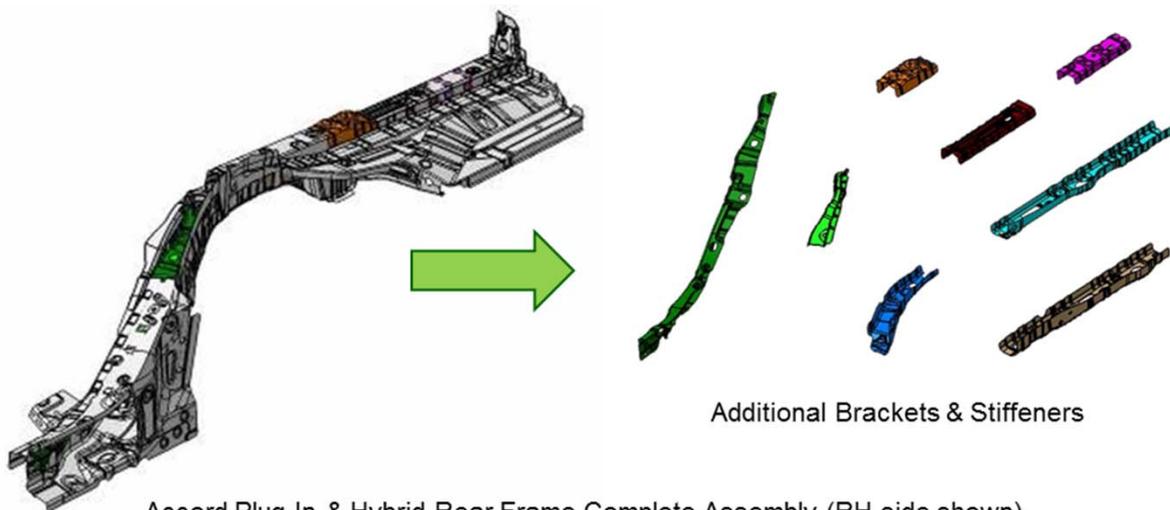
The numbered parts in the diagrams below are constructed of 1,500 MPa steel:



4-Door Models	
1	Front Inner Upper Pillar
2	Center Pillar Upper Stiffener
3	Side Sill Stiffener
4	Inside Sill Reinforcement

ADDITIONAL HIGH STRENGTH STEEL LOCATIONS FOR PLUG-IN AND HYBRID

- The dashboard area includes additional 780 and 590 MPa high strength steel reinforcements.
- The left and right rear frame complete assemblies contain additional/unique 590 MPa high strength steel brackets and stiffeners to accommodate and protect the high-voltage battery and IPU.
- Always refer to the correct parts catalog when ordering replacement structural parts.

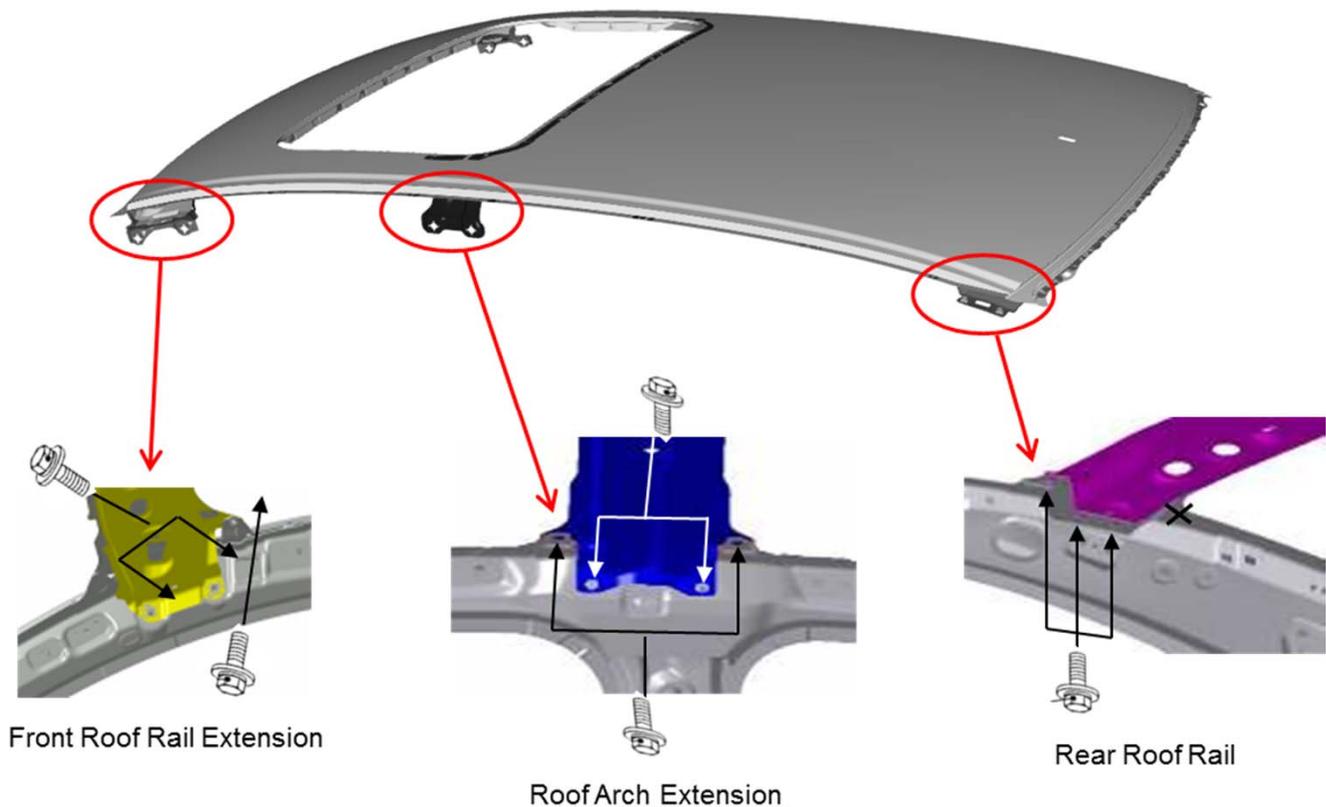


Additional Brackets & Stiffeners

Accord Plug-In & Hybrid Rear Frame Complete Assembly (RH side shown)

ROOF PANEL ATTACHMENT

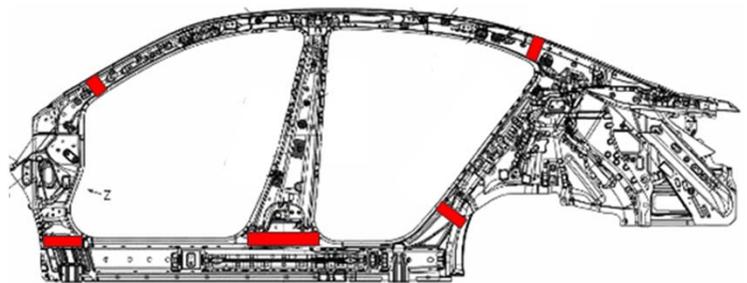
The roof rail and roof arch extensions are integrated into the roof panel assembly. Previously, these were separate parts. The roof panel bolts and spot welds must be removed and installed to the inner pillar and roof rail structure using a specific procedure. Refer to the body repair manual section titled "Roof Panel Removal and Installation" for complete information.



ACOUSTIC SEPARATOR LOCATIONS

Separators constructed of plastic and urethane foam are installed in multiple locations to reduce road noise intrusion into the cabin.

- Factory-installed separator foam is expanded during the primer and paint baking process.
- Use care to avoid separator foam damage. The original foam cannot be restored if damaged.
- Replacement plastic separators are available as service parts. These will not produce foam, even if heated. To seal the new separator, apply urethane sealer around the separator to fill in the gap with the panel.



■ = Acoustic Foam Separator Locations

High-Voltage Electric Powertrain System

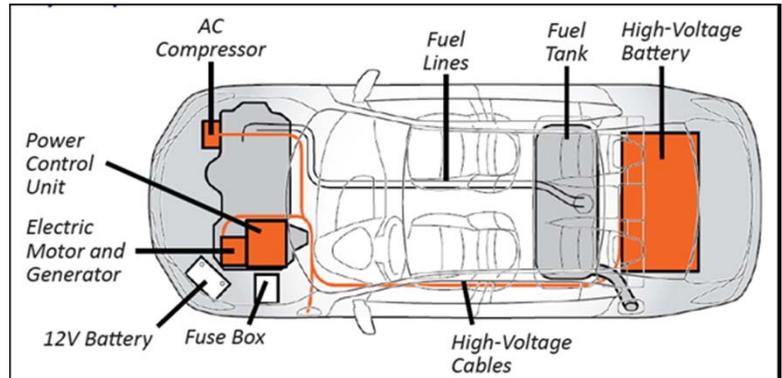
HIGH VOLTAGE BATTERY & CIRCUITS

The electric powertrain system uses a lithium-ion battery in and intelligent power unit (IPU), located behind the rear seat. High voltage circuits route power to the engine compartment area. The high voltage system operates at up to approximately:

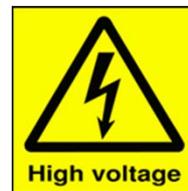
- 320 Volts on Accord Plug-In
- 260 Volts on Accord Hybrid
- High voltage is identified using bright orange colored cables & coverings.
- A damaged high-voltage lithium-ion battery can emit toxic fumes and the organic solvent used as electrolyte is flammable and corrosive. Always wear protective equipment.

Improper high-voltage handling or service may cause serious injury such as electrocution.

- Service or repair of the electric powertrain system should only be done by properly trained technicians. Contact a Honda dealer for assistance if necessary.
- Follow high-voltage safety precautions when working on or around the electric powertrain system. Isolate the high voltage before doing any welding or electrical repairs .
- Refer to “Electric Powertrain System” in the body repair manual, or “Electric Powertrain Service Precautions” in the service manual for complete information.
- .Additional high-voltage safety information may be found in the Emergency Response Guide for each model. These are available free of charge on the Honda Service Express website.



High-Voltage Component & Cable Layout



TOWING AND LIFTING PRECAUTIONS

- Flat bed towing equipment is the preferred method to transport this vehicle.
- Front wheel lift towing equipment may also be used to tow this vehicle.
- When rolling a damaged Accord Plug-In or Hybrid with the front (drive) wheels on the ground, the electric motor can produce electricity and remains a potential source of electric shock even when the high-voltage system is turned off.

For more information, refer to “Emergency Towing” in the owner’s manual.

- Lift or jack only at the specified points to avoid damaging the vehicle.
- Do not lift or tow this vehicle by its bumpers, or serious damage will result.

For more information, refer to “Lift and Support Points” in the service or body repair manual.



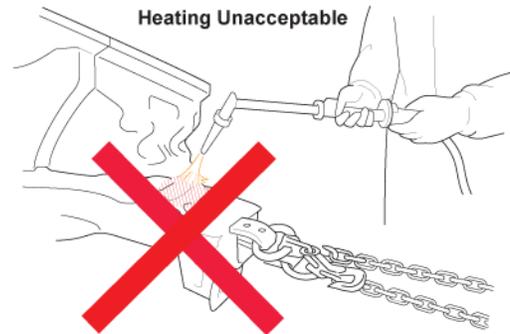
Body Repair Information

NOTE: The following content is intended only to highlight new/special concerns. No body repairs should be attempted without first referring to the appropriate body repair manual for complete information.

USE OF HEAT DURING BODY STRAIGHTENING AND REPAIR

When you are doing body straightening and repair procedures:

- DO NOT apply heat to any body part during straightening. This may compromise the internal structure and strength of high-strength steel parts.
- Any part that has heat applied to it during straightening MUST be replaced with new parts.
- Ignoring these instructions may significantly reduce occupant protection in any subsequent collision.
- High temperature may damage the battery module. For example, when drying paint in a heated paint booth, the temperature must not exceed 150 °F (65 °C).

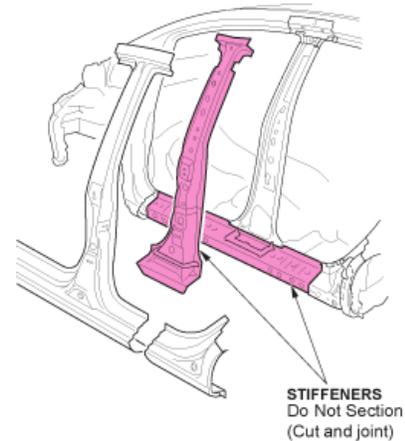


SECTIONING (CUT AND JOINT) GUIDELINES

Because of body structure improvements for collision safety and rigidity, the materials, steel thickness, and internal reinforcements have become very specific.

Follow these guidelines to avoid an unsafe repair:

- Avoid sectioning (cut and joint) except for outer panels and floor panels unless a specific procedure is provided in the body repair manual.
- Replace body structural components as assemblies that match the replacement parts configuration.



ALUMINUM PARTS & REPAIRABILITY

Aluminum alloy parts not shared with regular Accord models include:

- Hood panel.
- Front subframe

Repairability Issues:

- Do not attempt to repair the front subframe if damaged.
- Aluminum hood panels may be repaired by body shops that have dedicated aluminum repair facilities and tools.
- To prevent galvanic corrosion, fasteners for aluminum parts are considered one-time use and must be replaced if removed.
- Always refer to the correct parts catalog when ordering replacement parts.



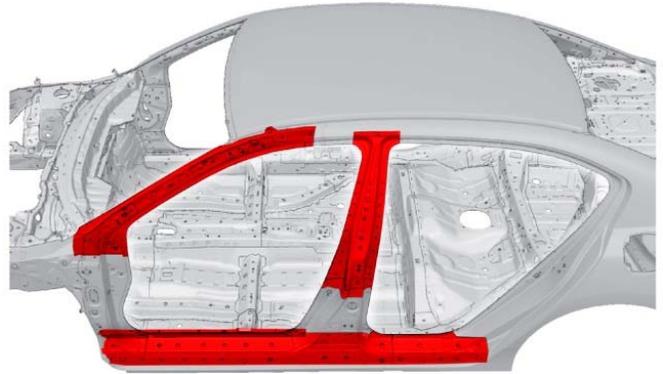
Full Aluminum Front Subframe

Welding Precautions and Information

REPAIRING 1,500 MPa STEEL PARTS

Observe these precautions when repairing 1,500 MPa steel parts:

- NEVER attempt to straighten damaged 1,500 MPa steel parts because they may crack.
- 1,500 MPa steel parts MUST be replaced at factory seams using squeeze-type resistance spot welding (STRSW).
- MIG brazed joints should be used ONLY in locations not accessible by a spot welder.
- To assure adequate weld tensile strength, always set the spot welder to the specifications provided in the body repair manual.



Important Information

Parts made of Ultra High Strength Steel (UHSS/1,500MPa/ USIBOR) must be installed as a complete part. No sectioning allowed. Ultra High Strength Steel requires special welding equipment, procedures, and settings. See the welding section of the appropriate body repair manual. Failure to use the proper equipment or follow the proper procedures can result in an unsafe repair.

- NEVER perform MAG welding on 1,500 MPa steel. The heat generated during welding will significantly reduce the strength and structural integrity of 1,500 MPa steel parts.
- This photo shows tensile strength test results of welded 1,500 MPa steel. The 1,500 MPa steel fractured first, because the welding heat reduced its strength to far below 590 MPa.
- For more information, refer to “Hot Stamp (1,500 MPa) Parts Welding Specifications” in the body repair manual.

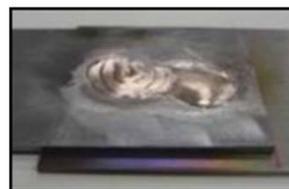


Tensile Test Results of Welded 1,500 MPa Steel

MIG BRAZING GUIDELINES FOR 1,500 MPa STEEL PARTS

Refer to the body repair manual for complete information:

- MIG brazed joint locations are specified in the body repair manual.
- A single, or double, hole MIG braze may be specified in the body repair manual depending on the tensile strength of the parts being joined.
- The size and number of holes is critical to achieving adequate joint strength.
- A pulsed MIG welder MUST be used. Refer to the equipment manufacturer’s instructions for welder voltage and current setup.
- Photos at right show the difference in results between pulsed and non-pulsed MIG brazing.



Pulsed MIG (OK)



w/o Pulsed MIG (Bad)



MAG WELDING SPECIFICATIONS FOR 590-980 MPa HIGH-STRENGTH STEEL PARTS

NOTE: In this publication and the body repair manuals, gas metal arc welding (GMAW) is referred to by its subtypes depending on the welding/brazing requirements:

- **MIG welding/brazing** = Metal inert gas welding or brazing where 100% Argon (Ar) shielding gas is used. Argon is inert and does not react with the molten weld pool or brazing operation.
- **MAG welding** = Metal active gas welding where the shielding gas being used contains a mixture of 80% Argon (Ar) and 20% Carbon Dioxide (CO₂). It is considered active because the CO₂ undergoes a limited reaction with the molten weld pool.

The body repair manual specifies the weld types and locations for each body panel:

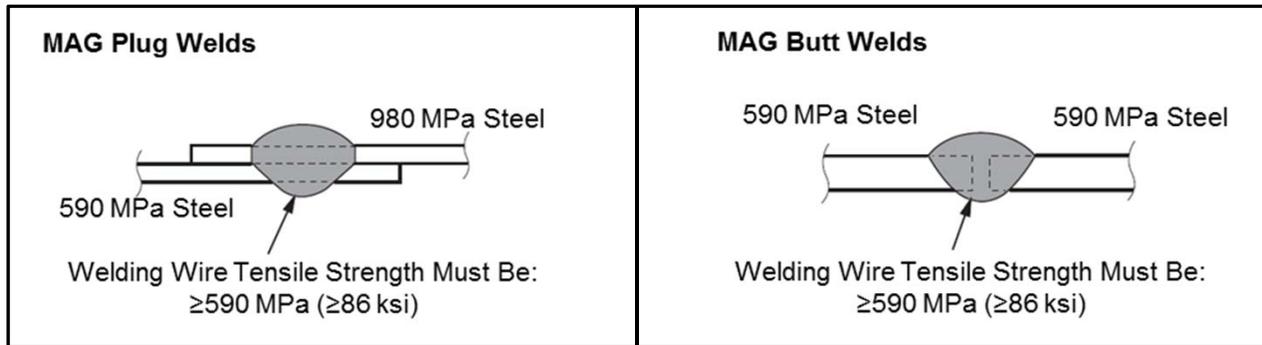
- The welding wire used must have a tensile strength equal to, or greater than, the lowest tensile strength of the parts being welded. This conversion chart shows the relationship of steel tensile strength (MPa) to the minimum welding wire tensile strength (ksi).
- Refer to the diagrams shown below:

Important Information

Parts made of High Strength Steel (590-980 MPa) must be installed as a complete part. No sectioning is allowed unless a procedure is provided in the body repair manual. This high-strength steel requires special welding equipment, procedures and settings. See the welding section of the appropriate body repair manual. Failure to use the proper equipment or follow the proper procedures can result in an unsafe repair.

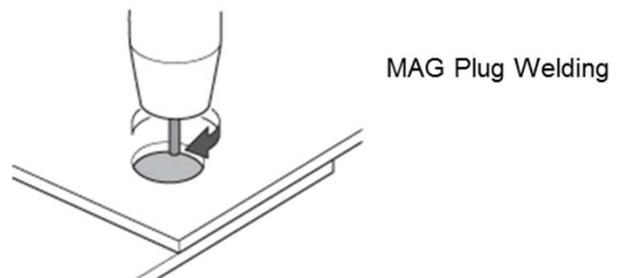
Steel Tensile (MPa)	Wire Tensile (ksi)
590	≥86
780	≥113
980	≥142

(1,000 psi = 1 ksi)



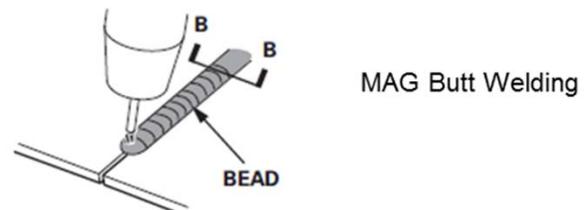
MAG PLUG WELDING GUIDELINES

- MAG plug welding may be done when joining body components to 590-980 MPa steel parts.
- Follow the recommendations described in the body repair manual section "MAG welding specifications for high-strength steel parts 590 MPa and higher."



MAG BUTT WELDING GUIDELINES

- MAG butt welding may be done only on steel parts with a tensile strength of 590 MPa and lower.
- Welding speed is critical to achieve the correct weld strength and minimize the heat affected zone (HAZ).
- Follow the recommendations described in the body repair manual section "MAG welding specifications for high-strength steel parts 590 MPa and higher."



Plug-In and Hybrid Specific Vehicle Systems

On Accord Plug-In and Hybrid models, the following systems are unique or significantly different from regular Accord models. Refer to the service manual for complete information on these systems. Or contact a Honda dealer for assistance with repair of these systems.

Acoustic Vehicle Alerting System (AVAS):

The vehicle will make a low volume sound to alert pedestrians when the vehicle is propelled solely by electricity, and approaching at a speed of about 12 mph (20 km/h) or less.

- The system consists of a AVAS control unit and speaker.
- The system cannot be turned off on US models.



Power System Indicator:

The gauge module includes a new "Power System" indicator.

- This icon illuminates when faults occur in the high voltage components of the vehicle.
- Comes on when the High Voltage battery temperature becomes high while the battery is being charged.
- Checking DTCs requires an HDS (or equivalent) scan tool. Contact a Honda dealer for assistance if necessary.

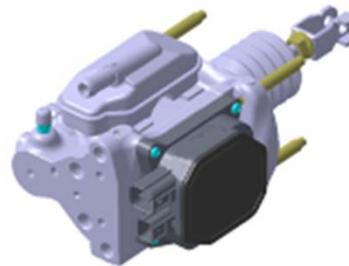


Power System Indicator

Electric Servo Brake System:

An electric servo brake system is used to provide traditional brake system feel during electric operation. It also coordinates electric motor regeneration and the vehicle's brakes for seamless deceleration and stopping.

- Brake system components appear significantly different than traditional brake systems.
- The amber BRAKE SYSTEM indicator comes in the event of an electric servo brake system malfunction.
- Special brake fluid replacement and bleeding procedures are required. Contact a Honda dealer for assistance if necessary.



Brake Operating Simulator (Electric Servo Brake System)



Brake System Indicator

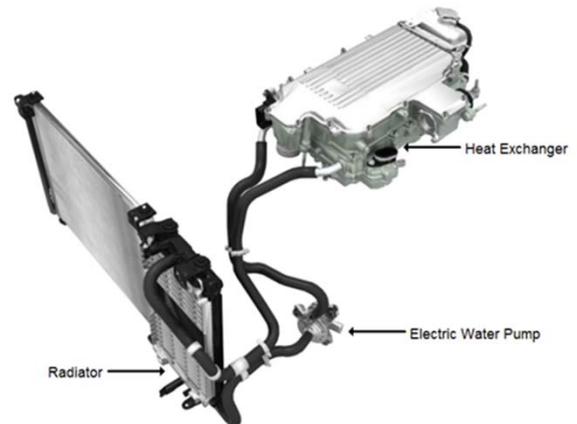
Cooling and HVAC Systems:

Cooling system differences include:

- Separate engine and power control unit cooling systems.
- A single cooling fan with a brushless motor provides low speed airflow for both cooling systems.
- Several electric coolant pumps are used to circulate coolant when the gasoline engine is not running.
- Special coolant fill procedures are required during component replacement.

HVAC system differences include:

- High-voltage electric A/C compressor
- High-voltage electrical coolant heater and 3-way electric heater valve to control coolant flow on Plug-In models.
- 12 volt auxiliary electric heater on Hybrid models.



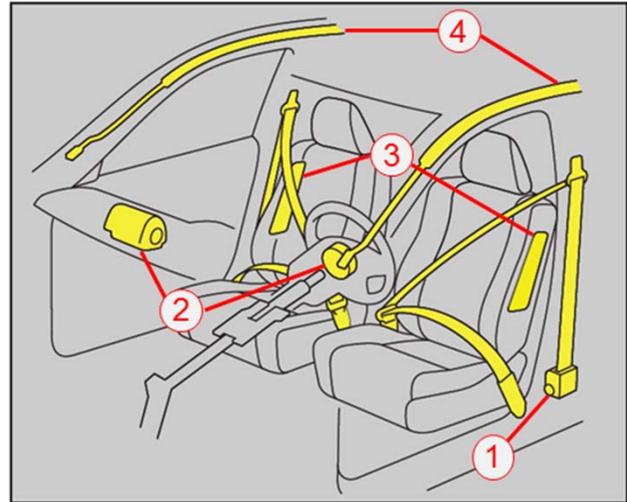
Power Control Unit (PCU) Cooling System

Airbag System Components and Repairs

AIRBAG SYSTEM COMPONENTS

The airbag system in this vehicle includes the following components that may deploy in a collision:

1. Driver and front passenger seat belt tensioners (may deploy independently from any airbags).
2. Driver and front passenger SRS airbags.
3. Side airbags mounted in the outer driver and front passenger seat-backs.
4. Left and right side curtain airbags mounted above the side windows under the headliner.



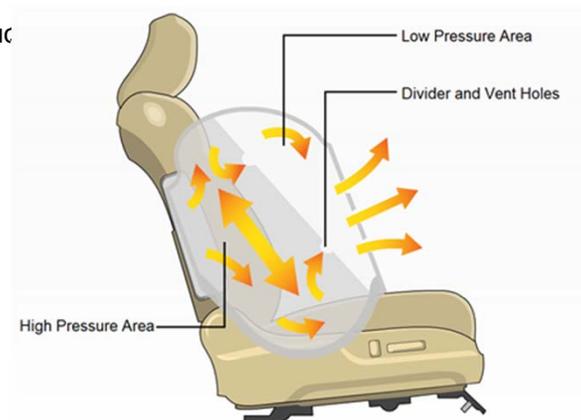
SMARTVENT™ SIDE AIRBAGS

This vehicle is equipped with new SmartVent side airbag construction.

- This airbag design helps mitigate the risk of excessive airbag deployment force and risk of injury to smaller seat occupants.
- Eliminates the need for the Occupant Position Detection System (OPDS) sensor in the front passenger's seatback.

As with all side airbags, the following service precautions apply:

- Special seat covers and/or breakaway thread are used to insure proper deployment path.
- Damaged front seat covers should be replaced, not repaired.
- Do not install non-factory seat covers, because they may alter the airbag's intended deployment path.



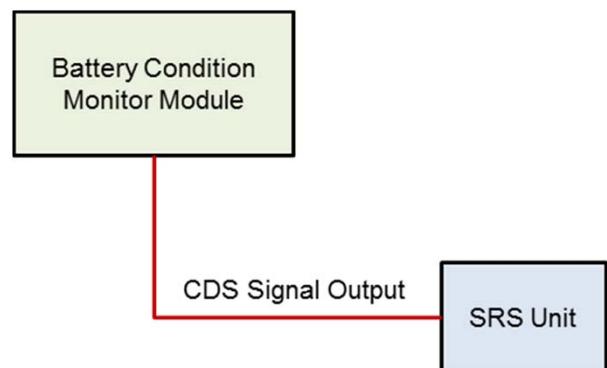
SmartVent Side Airbag

COLLISION POWER SHUTDOWN SYSTEM

The electric powertrain system is equipped with a system to shut off the high-voltage circuits in the event of a collision.

- When the SRS unit detects a collision, it sends collision information to the battery condition monitor module via a hardwired crash detection signal (CDS) output.
- If the battery condition monitor module judges that the CDS signal meets a programmed threshold, the high voltage contactors are shut off for safety and a DTC (P1D65) is set.
- Check the high-voltage battery and cables for damage and replace any damaged components.
- After repairs are completed, the vehicle will not restart until the DTC has been cleared using the HDS (or equivalent) scan tool.

Contact a Honda dealer for assistance if necessary.



Collision Power Shutdown System Diagram

AIRBAG SYSTEM INDICATORS

There are two indicators used for the airbag system:

Supplemental Restraint System (SRS) Indicator

When you turn the vehicle to the ON mode, this indicator should come on and then turn off after about 6 seconds.

- If the SRS indicator does not go off, or does not come on at all, there is a problem with the system.
- DTCs must be read and cleared using the HDS (or equivalent) scan tool. Contact a Honda dealer for assistance if necessary.
- If a vehicle is sent to the dealer for airbag system repair or troubleshooting, include a copy of the repair estimate with part numbers and the source for any replaced airbag system parts.



SRS Indicator

Passenger Airbag OFF Indicator

The indicator comes on to alert you that the passenger's front airbag has been turned off.

- This occurs when the front passenger's weight sensors detect 65 lb. (29 kg) or less, the weight of an infant or small child, on the seat.
- If the indicator comes on with no front passenger and no objects on the seat, or with an adult occupying the seat, something may be interfering with the seat weight sensors, or there may be a problem with the system. Contact a Honda dealer for assistance if necessary.



Passenger Airbag OFF Indicator

AIRBAG SYSTEM REPAIRS REQUIRED AFTER DEPLOYMENT

To restore proper function and allow DTCs to be cleared, the airbag system **MUST** be repaired as specified in the service manual. Refer to "Component Replacement/Inspection After Deployment" for complete information.

- DO NOT install used, refurbished, or modified airbag system parts!
- When making airbag system repairs, only use new Honda genuine replacement parts, which are manufactured to the same standards and quality as the original parts.
- To ensure the correct replacement airbag system parts are installed, provide the vehicle's VIN when ordering parts. Compare the part numbers on the new and removed parts to make sure they match.

AIRBAG SYSTEM ELECTRICAL REPAIRS

Except when doing electrical inspections that require battery power, always turn the vehicle to the OFF (LOCK) mode, disconnect the negative battery cable, then wait at least 3 minutes before starting work.

- For easier identification, electrical connectors that contain only airbag system wiring are yellow in color.
- Many harnesses that contain primarily airbag wiring are also wrapped in yellow tape.
- Airbag system wiring that runs in a common harness, such as a floor harness, is generally not marked.
- NEVER attempt to modify, splice, or repair airbag system wiring. If airbag system wiring is damaged, replace the wiring harness(es).

NOTE: Refer to the service manual for complete restraint systems operation, diagnostic, and repair information.



12 Volt Electrical Repair Information

TIRE PRESSURE MONITORING SYSTEM (TPMS)

This vehicle is equipped with an indirect TPMS. It uses the VSA wheel speed sensors to monitor and compare tire characteristics while driving to determine if one or more tires are significantly underinflated.

The low tire pressure/TPMS indicator blinks and/or comes on if:

- The air pressure is too low in one or more tires.
- The system requires calibration or is calibrating.
- The compact spare tire is mounted.
- There is a TPMS problem.



Low Tire Pressure/TPMS Indicator

TPMS calibration must be started every time you:

- Adjust the pressure in one or more tires
- Rotate the tires
- Replace one or more tires
- Replace or update the VSA-modulator control unit.

Refer to “TPMS Calibration ” in the service or owner’s manual for complete information.

- Contact a Honda dealer for assistance if necessary.

REPLACEABLE HEADLIGHT BRACKETS

If any of the headlight assembly attachment brackets are broken, replacement brackets are available as service parts.

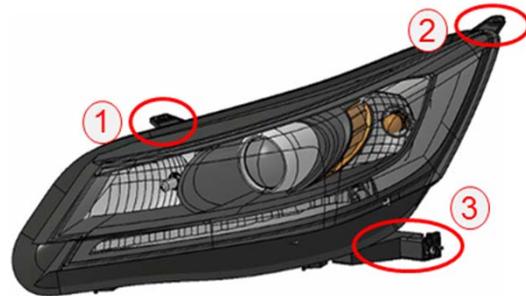
A broken headlight assembly can be repaired using service brackets provided it meets the following criteria:

- No damage to the headlight assembly
- Sealing of the headlight lens and headlight housing is maintained.

These service brackets are available:

1. Upper front bracket
2. Upper rear bracket
3. Lower bracket

Refer to “Headlight Bracket Replacement” in the body repair manual for complete information.



Service Headlight Brackets

SYSTEMS THAT MAY REQUIRE DEALER ASSISTANCE WITH AIMING

Some models may be equipped with one or more of the following systems that require aiming after collision repairs. Special tools are required to complete the aiming procedures. Contact a Honda dealer for assistance.

LaneWatch™:

LaneWatch uses a camera and the center display to help drivers recognize objects in the blind spot of the passenger side door mirror.

The LaneWatch camera must be aimed after one or more of the following procedures are done:

- LaneWatch camera removal or replacement
- Door mirror removal or replacement
- Door panel removal or replacement
- Door panel body repair

LaneWatch does not set DTCs. Troubleshooting and camera aiming are done using the navigation system or center display self-diagnostics.

LaneWatch does not have a malfunction indicator.



LaneWatch Camera

Forward Collision Warning and Lane Departure Warning (FCW/LDW):

The FCW/LDW camera must be re-aimed if:

- The FCW/LDW camera unit is removed or replaced
- The windshield is removed or replaced

If the aiming is incomplete, the FCW and LDW indicators come on and/or blink.



Adaptive Cruise Control (ACC):

The millimeter wave radar for the ACC must be re-aimed if:

- The radar unit is removed or replaced
- The radar unit's mounting area was damaged

The green-amber ACC indicator comes on if the aiming process is not completed, or the service manual procedure is not followed. The ACC warning message may also appear.



12 VOLT ELECTRICAL PIGTAIL AND CONNECTOR REPAIR

- Disconnect the vehicle's 12 volt battery before doing any welding or electrical repairs. Refer to "12 Volt Battery Terminal Disconnection and Reconnection" in the service or body repair manuals for more information.
- Certain front and rear electrical connectors subject to collision damage may be repaired using pigtails and connectors listed in the ELECTRICAL CONNECTORS illustrations in the parts catalog (example shown here).
- Pigtails attach to the vehicle wiring using special crimp-and-seal terminal joints. After crimping, the joints are heated using a heat gun to seal out the environment.
- Repair pigtails come in a limited range of colors that usually don't match the vehicle's wiring. Pay close attention during repairs to ensure correct locations.
- Vehicle wiring schematics service information can be found in the Electrical Wiring Diagrams (EWD).
- If wiring is damaged and a repair pigtail or connector is not available, replace the affected harness.
- NEVER attempt to modify, splice, or repair airbag system wiring.

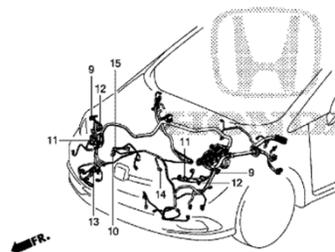


FIG. No.	COUPLER		PIG TAIL SIZE	TERMINAL JOINT	
	ILLUSTRATION	LOCATION		FIG. No.	Ref. No.
9		FR. TURN	0.5	2	16
10		HORN	0.5	5	16
11		HEADLIGHT (HIGH)	1.75	4	17
12		HEADLIGHT (LOW)	0.5	3	16
12		HEADLIGHT (LOW)	1.25	4	17
13		WASHER MOTOR	1.25	1	17
14		RADIATOR FAN MOTOR	1.25	6	17
14		RADIATOR FAN MOTOR	2.0	7	18
15		CONDENSER FAN MOTOR	1.25	8	17

ELECTRICAL GROUND WIRE PROTECTION

- Painting over electrical ground locations may cause electrical systems, such as Vehicle Stability Assist (VSA), to malfunction and set DTCs that may be difficult to diagnose.
- Protect the ground wire and the ground wire mounting hole threads with a bolt or silicone plug when priming or painting.

