



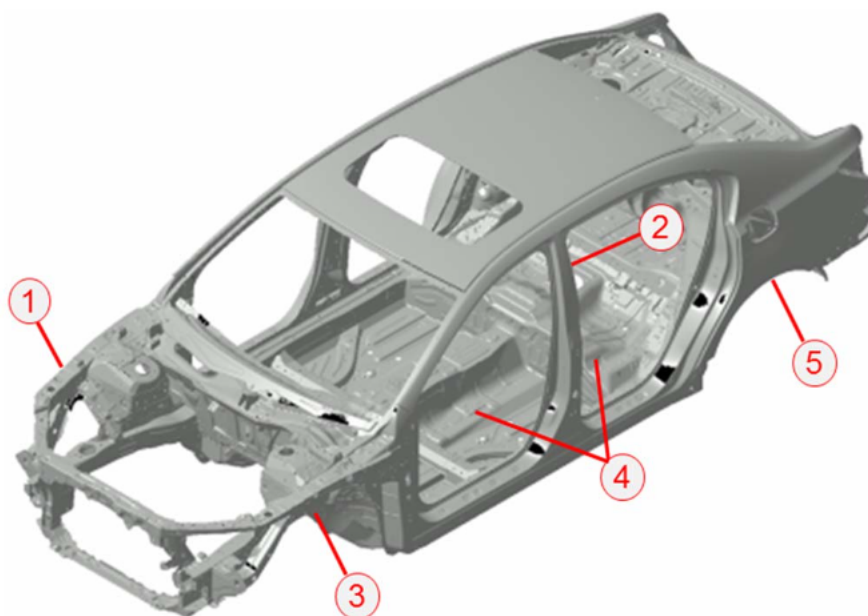
2014 RLX: New Model Body Repair Information

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.acura.com

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OVERVIEW OF BODY FEATURES

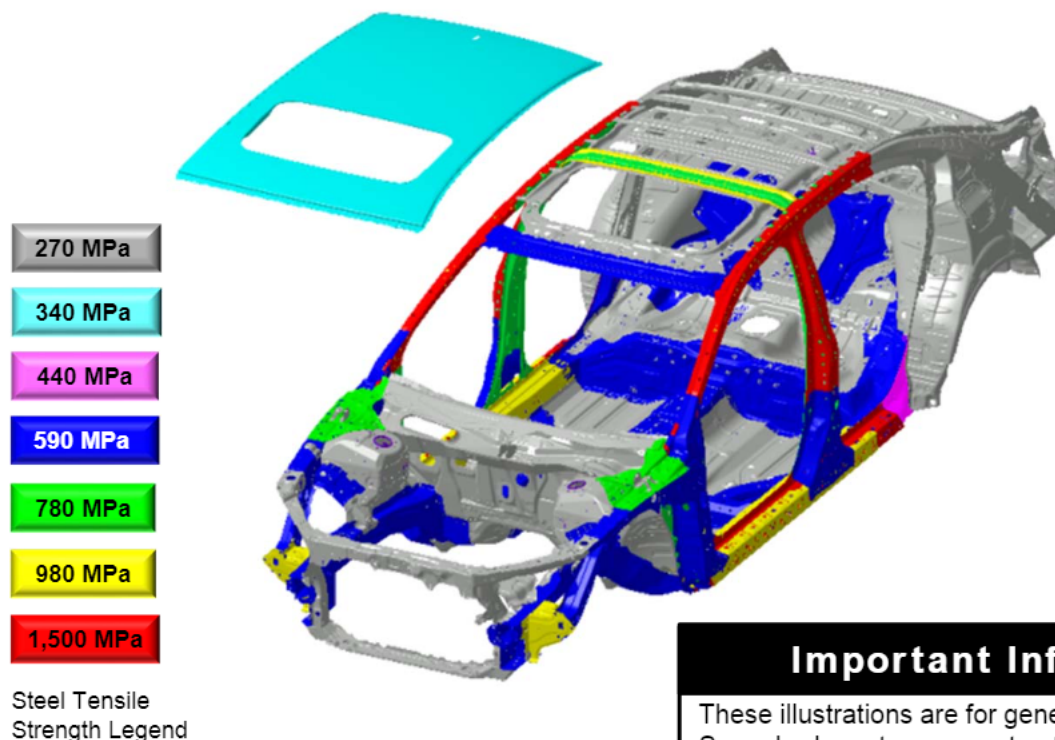


1. Next-Generation Advanced Compatibility Engineering™ (ACE™) body structure.
2. Body construction using 55% high tensile strength steel, including 20% in grades 780, 980, and 1,500 MPa.
3. Extensive aluminum components for weight reduction and improved fuel efficiency (not shown in this view).
4. Aluminum hybrid front and rear door construction (not shown in this view).
5. Hem-style rear wheel arch panel joint.

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.



Important Information

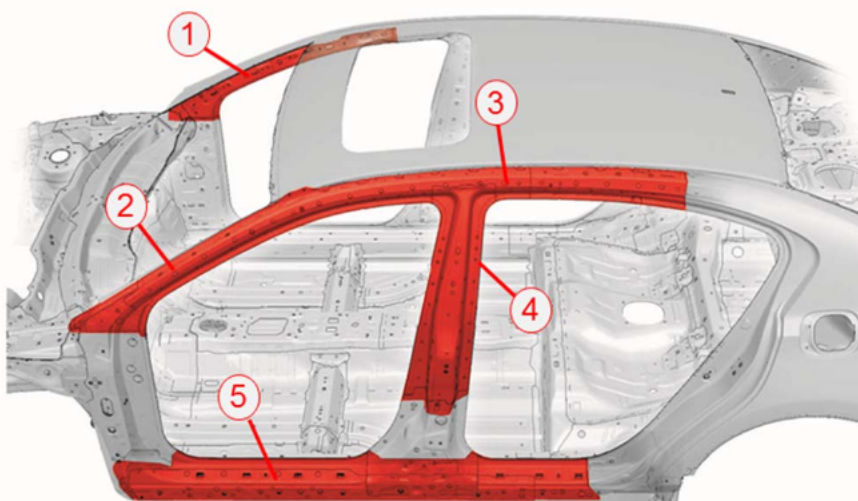
These illustrations are for general reference only. Some body parts are constructed from multiple layers of different tensile strength steels. Always refer to the body repair manual body construction section for specific steel tensile strength information.

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:

All Models	
1	Front Inner Upper Pillar
2	Front Pillar Upper Stiffener
3	Roof Side Stiffener
4	Center Pillar Upper Stiffener
5	Side Sill Stiffener

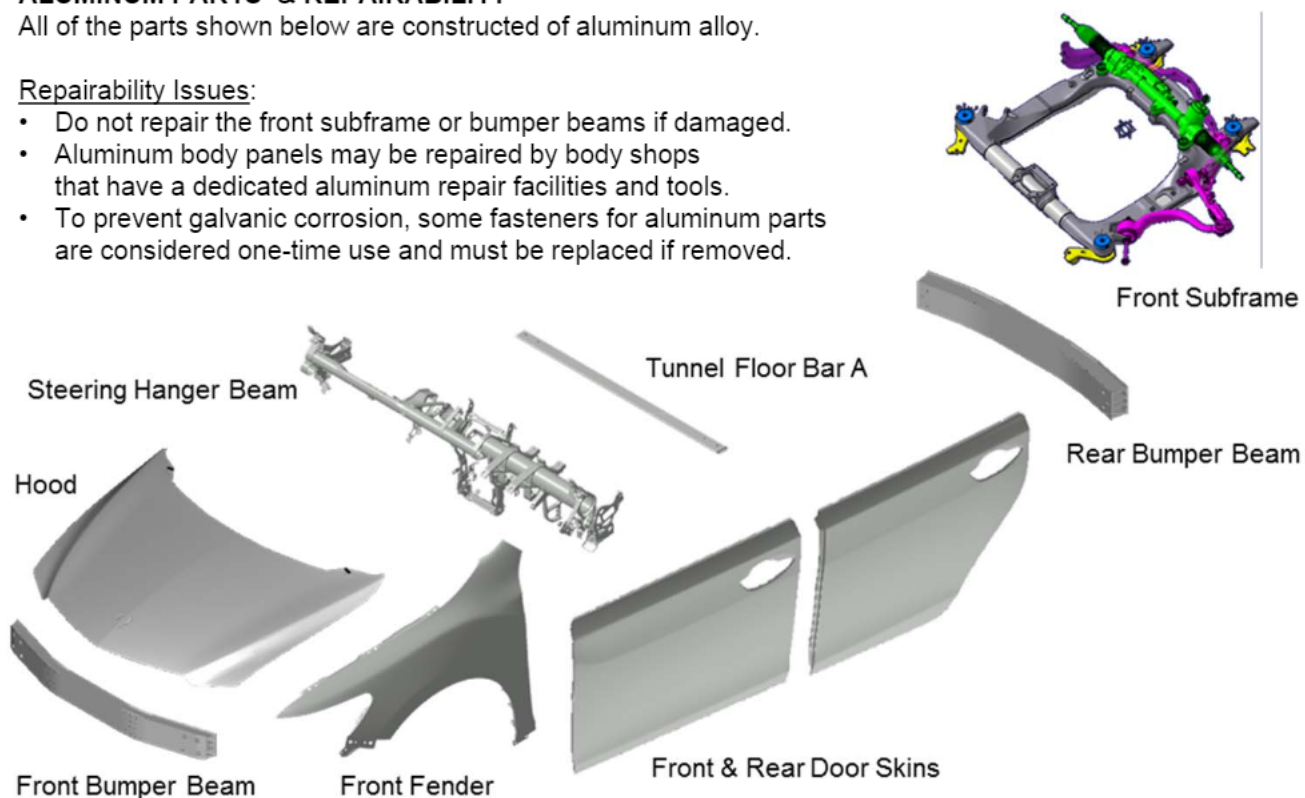


ALUMINUM PARTS & REPAIRABILITY

All of the parts shown below are constructed of aluminum alloy.

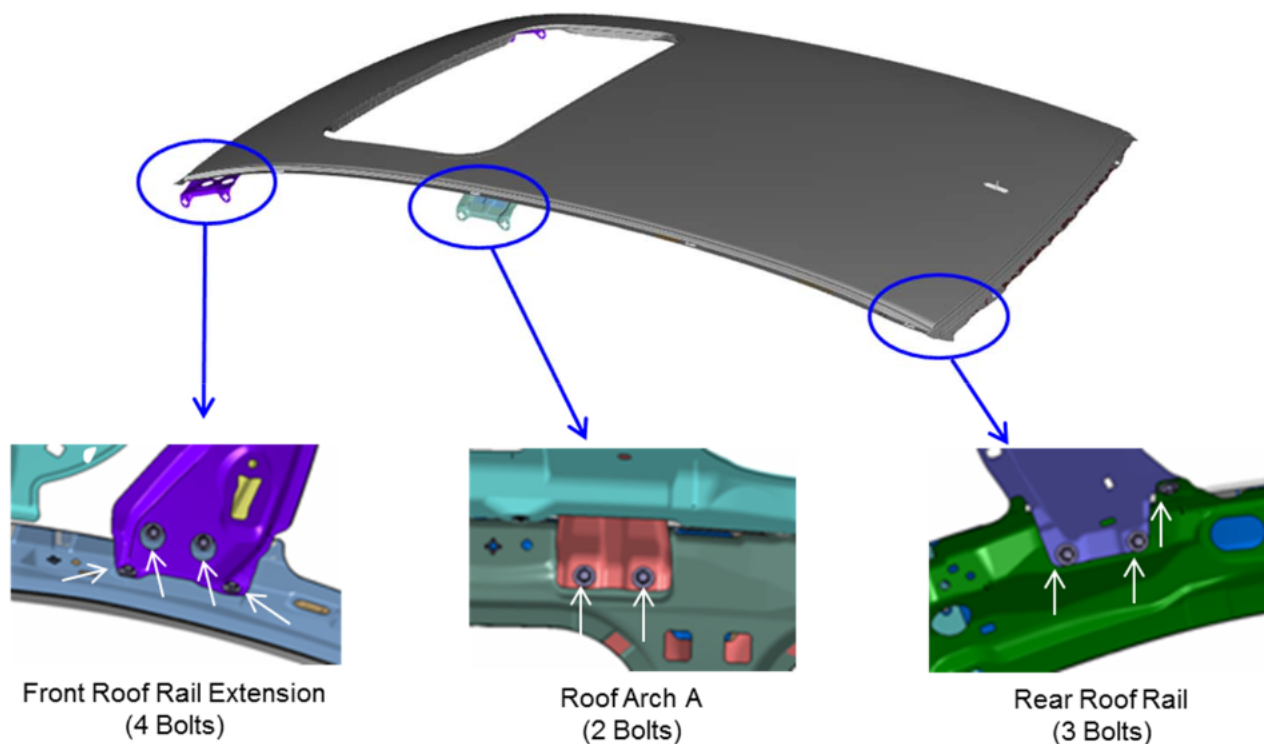
Repairability Issues:

- Do not repair the front subframe or bumper beams if damaged.
- Aluminum body panels may be repaired by body shops that have a dedicated aluminum repair facilities and tools.
- To prevent galvanic corrosion, some fasteners for aluminum parts are considered one-time use and must be replaced if removed.



ROOF PANEL ATTACHMENT

The roof rail and roof arch extensions are integrated into the roof panel assembly. 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.



NEW DOOR STRUCTURE

The doors on this vehicle use new technology to join steel and aluminum panels.

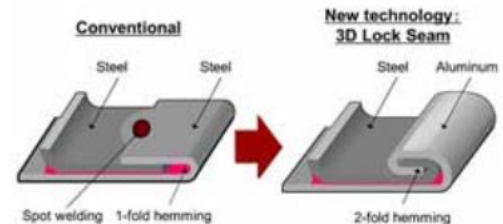
- This is the world's first application of this technology to a door panel.
- Door panel weight is reduced by approximately 17 percent compared to all-steel doors, improving vehicle handling and fuel economy.
- The inner door panel is a conventional steel structure.
- The outer door panel is made of aluminum alloy.

Aluminum
Steel



The two panels are joined using adhesive and a special “3D lock seam” joint.

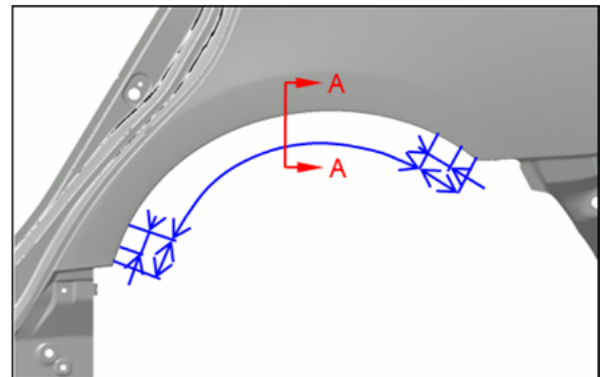
- The outer door panels are not serviced separately.
- Minor damage to aluminum door panels may be repaired by body shops that have a dedicated aluminum repair facility and tools.
- Major damage to the aluminum door panels may require door replacement.



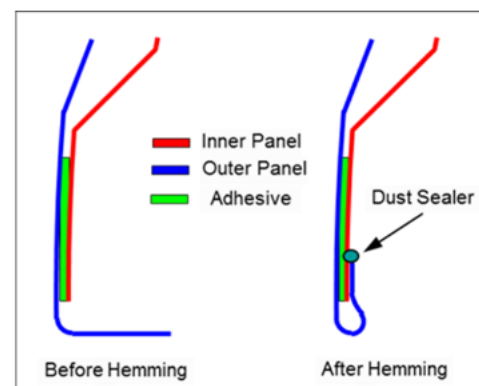
REAR WHEEL ARCH HEM JOINT

To improve styling and tire clearance, a hemmed rear wheel arch joint is used.

- The outer and inner rear panels are joined using adhesive in the wheel opening area.
- The outer panel is then rolled and crimped over the inner panel, similar to a door panel crimp.
- Other vehicle manufacturers have previously used this technology, so rolling and flanging tools are commercially available.
- If the above tools are not available, instructions are provided in the body repair manual to make the set of hemming pliers necessary to complete this joint.
- Refer to the body repair manual section titled “Rear Side Outer Panel Removal and Installation” for complete information.



Rear Wheel Arch Hem Joint Area

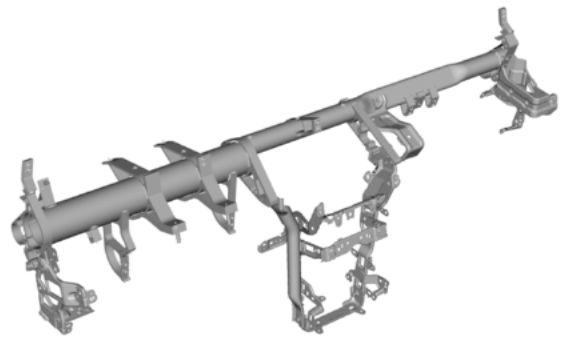


Rear Wheel Arch (Section A-A)

STEERING HANGER BEAM

The steering hanger beam provides mounting for the steering column and dashboard components.

- The beam is constructed from aluminum for weight savings.
- Do not repair the steering hanger beam if it is damaged.
- Special threaded collar bolts are used on the passenger side of the beam to compensate for any variation in body dimensions.
- A specific installation and bolt tightening procedure is required.
- Refer to "Dashboard/Steering Hanger Beam Removal and Installation" in the service manual for complete information.

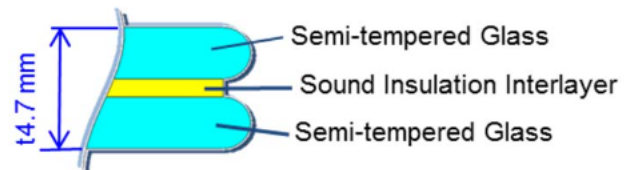
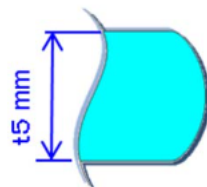
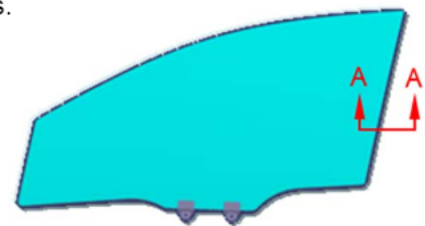


Aluminum Steering Hanger Beam

ACOUSTIC SIDE DOOR GLASS

Acoustic front side door glass is used for sound isolation on some trim levels.

- The glass has a sound insulation layer of PVB (polyvinyl butyral) sandwiched between two layers of semi-tempered glass.
- Acoustic side glass is thinner than conventional side glass.
- This type of glass is similar to laminated windshield glass. It does not shatter like conventional side window glass.
- To ensure the correct replacement glass is installed, provide the vehicle's VIN when ordering parts.



Section A-A Comparison Of Conventional & Acoustic Side Door Glass

CAPLESS FUEL FILLER

This vehicle uses a capless fuel filler design. It does not have a conventional gas cap.

- If you need to refuel the vehicle from a portable fuel container, a funnel is provided in the trunk tool case.
- For more information, refer to "Refueling From a Portable Fuel Container" in the owner's manual.



Capless Fuel Filler

TOWING AND LIFTING PRECAUTIONS

- All models must be towed using flat bed towing equipment only, or the vehicle's drive system will be damaged.
- 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 appropriate service or body repair manual.



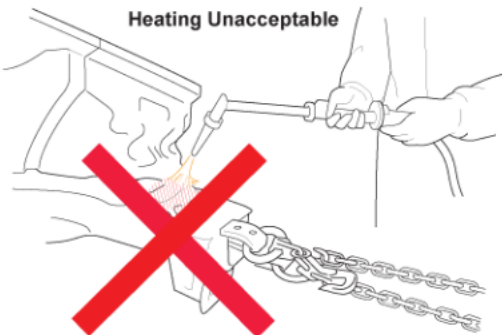
Body Repair Information

NOTE: The following content is intended only to highlight new/special concerns. No body repairs should be attempted without first referencing 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.

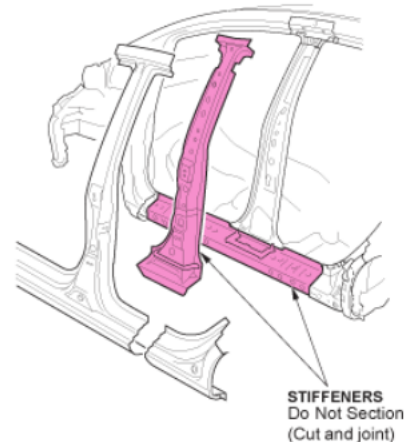


SECTIONING (CUT AND JOINT) GUIDELINES

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.
- Refer to "Front Side Frame and Rear Frame Cutting and Splicing" in the body repair manual for sectioning opportunities.



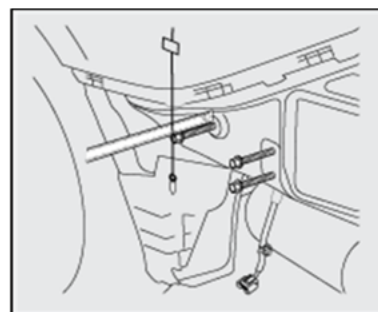
BLIND SPOT INFORMATION (BSI) SYSTEM

Models equipped with this system can be identified by this BSI Alert Indicator, located on both front doors near the outside rearview mirror.

- The system uses two radar units mounted on each side of the vehicle under the rear bumper.
- The system may malfunction and set DTCs because of damage, improper repairs, or excessive foreign material on any of the following:
 - Rear bumper
 - Outer side panels
 - Radar unit mounting locations
- Several checks and inspections must be done during repairs to the radar unit mounting area. If the mounting area check is not done, an Acura dealer may not be able to properly aim the radar units.
- For more information, refer to "BSI Radar Unit Mounting Area Check" in the service manual.



BSI Alert Indicator



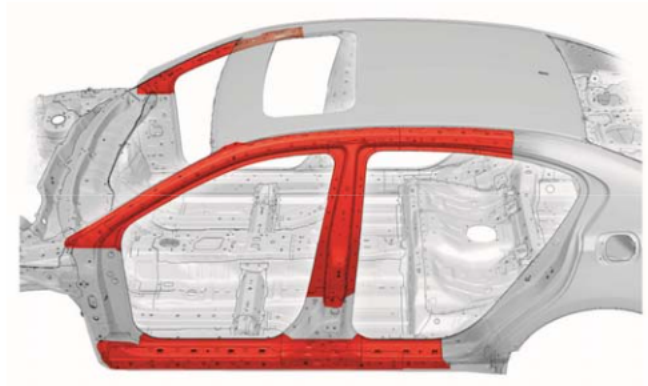
LH BSI Unit Mounting Area Check

Welding Precautions and Information

REPAIRING 1,500 MPa STEEL PARTS

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

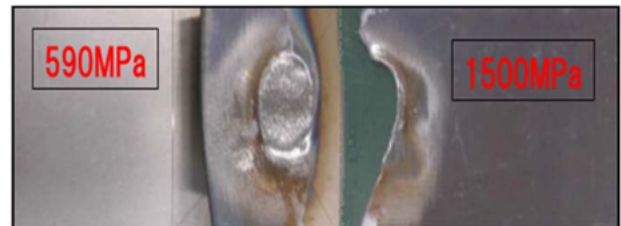
- NEVER attempt to straighten damaged 1,500 MPa steel parts because they may crack.
- 1,500 MPa steel parts MUST be replaced at factory seams using squeeze-type resistance spot welding (STRSW).
- MIG brazed joints should be used ONLY in locations not accessible by a spot welder.
- To assure adequate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

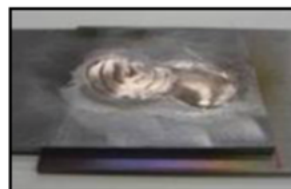


Tensile Test Results of Welded 1,500 MPa Steel

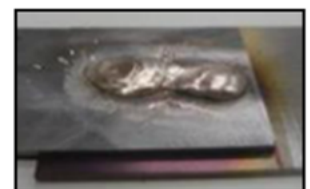
MIG BRAZING GUIDELINES FOR 1,500 MPa STEEL PARTS

Refer to the body repair manual for complete information:

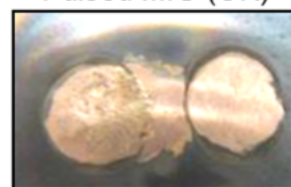
- MIG brazed joint locations are specified in the body repair manual.
- A single- or double- hole MIG braze may be specified in the body repair manual depending on the tensile strength of the parts being joined.
- The size and number of holes are critical to achieving adequate joint strength.
- A pulsed MIG welder MUST be used. Refer to the equipment manufacturer's instructions for welder voltage and current setup.
- The 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).
- Typical ER70S-6 MIG wire has a minimum tensile strength of 70 ksi (483 MPa). It can be used when welding up to 440 MPa steel parts. Refer to the diagrams shown below:

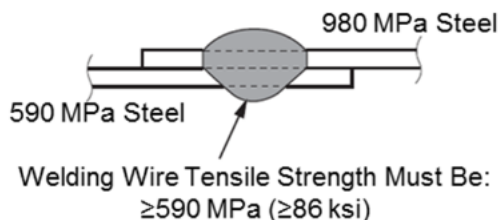
Important Information

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.

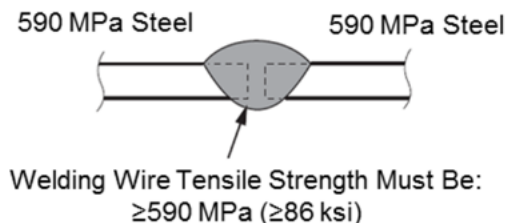
Steel Tensile (MPa)	Wire Tensile (ksi)
590	≥86
780	≥113
980	≥142

(1,000 psi = 1 ksi)

MAG Plug Welds

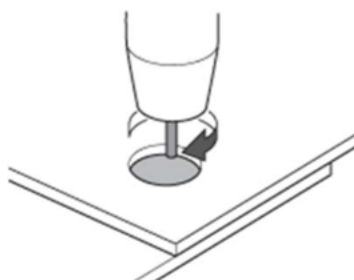


MAG Butt Welds



MAG PLUG WELDING GUIDELINES

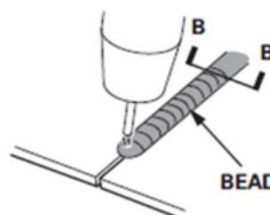
- MAG plug welding may be done when joining body components to 590-980 MPa steel parts.
- Follow the recommendations described in the body repair manual section "MAG welding specifications for high-strength steel parts 590 MPa and higher."



MAG Plug Welding

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."



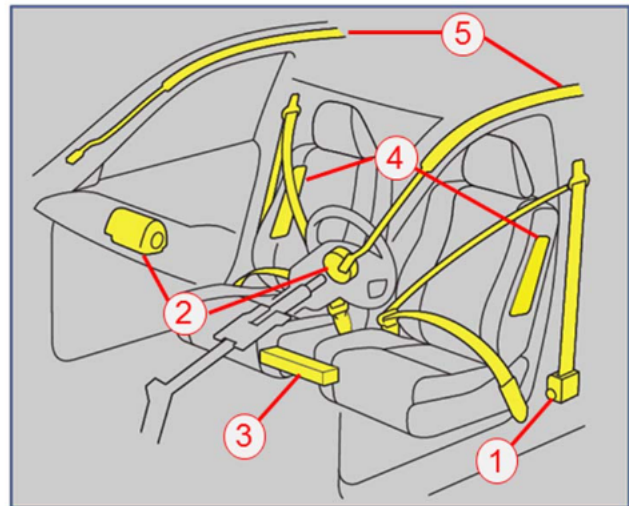
MAG Butt Welding

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. Driver's knee SRS airbag.
4. Side airbags mounted in the outer driver and front passenger seat-backs.
5. Left-and-right-side curtain airbags mounted above the side windows under the headliner.



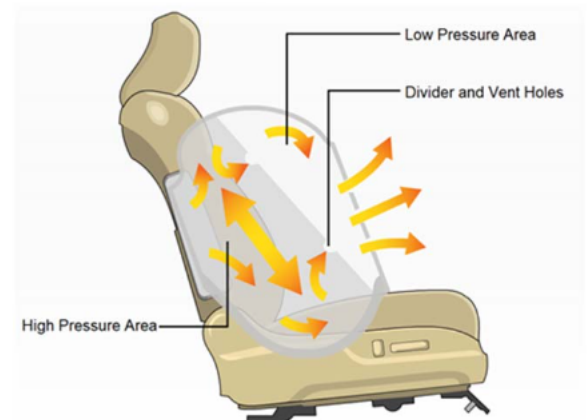
SMARTVENT™ SIDE AIRBAGS

This vehicle is equipped with SmartVent side airbag construction:

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

DRIVER'S KNEE AIRBAG

The driver's knee SRS airbag helps keep the driver in the proper position and to help maximize the benefit provided by the vehicle's other safety features.

- The driver's knee SRS airbag is mounted to the steering hanger beam below the steering column.
- It is designed to inflate in a moderate to severe frontal collision.
- Normally, it inflates with the driver's front airbag, but may also inflate alone under certain conditions.



Driver's Knee Airbag

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 an Acura 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 an Acura 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 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 place the vehicle in 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 through 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 system operation, diagnostic, and repair information.



Airbag System Connectors
& Harness (Yellow)

Electrical Repair Information

TIRE PRESSURE MONITORING SYSTEM (TPMS)

This vehicle is equipped with an initiator-type TPMS.

- The low tire pressure/TPMS indicator comes on if the air pressure is too low in one or more tires. TPMS messages will also appear on the multi-information display in the gauge control module.
- The TPMS indicator will stay on and the system will set DTCs if all four tire pressure sensor IDs are not memorized by the TPMS control unit after you replace a wheel and/or tire pressure sensor.
- Refer to "Memorizing a Tire Pressure Sensor ID" in the service manual for complete information.
- The HDS (or equivalent) scan tool may be required to perform this memorization. Contact an Acura dealer for assistance, if necessary.

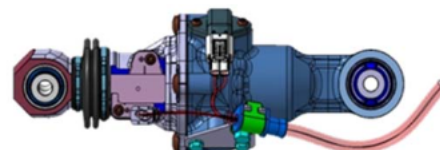


Low Tire Pressure/TPMS Indicator

PRECISION ALL WHEEL STEER™ SYSTEM

Some models are equipped with the Precision All Wheel Steer System.

- The Precision All-Wheel Steer (P-AWS) monitors and adjusts the rear toe angles to help maximize handling and stability under all conditions.
- An electric actuator with a toe position sensor is installed at each rear wheel between the steering knuckle and subframe.
- The neutral position of the toe sensors must be relearned using the HDS scan tool if the control unit or either actuator is replaced.
- Refer to "Rear Toe Position Sensor Neutral Position - Memorize" in the service manual for complete information.



Precision All Wheel Steer Actuator

ELECTRIC PARKING BRAKE

All models are equipped with an electric parking brake.

- Electric actuators on each rear brake caliper apply and release the brake pads.
- A manual procedure is provided if a malfunction prevents parking brake release.
- Refer to "Electric Parking Brake Forced Cancellation" in the service manual.



Electric Parking Brake Caliper

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 an Acura dealer for assistance.

Blind Spot Information (BSI) System:

The BSI radar unit must be aimed in these instances:

- After replacing or removal and installation of one or both BSI radar units.
- After replacing/repairing the body rear outer side panel(s).
- Stored DTCs B18B8 or B1E68 - left or right side BSI radar unit azimuth off alignment.

If a problem occurs in the BSI system, the amber BSI indicator will illuminate and this warning message may also appear.



BSI Indicator



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 blink.

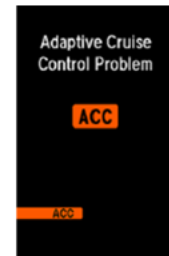


Adaptive Cruise Control (ACC) and Collision Mitigating Braking System (CMBS):

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

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



Lane Keeping Assist System (LKAS) System:

The LKAS camera must be aimed if:

- The camera/control unit is removed or replaced.
- The windshield is removed or replaced.

The amber LKAS indicator comes on and blinks if the aiming is not done or is not completed. The LKAS warning message may also appear.

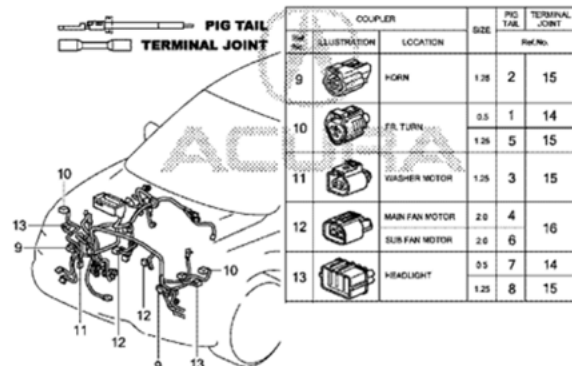


Windshield Replacement On FCW/LDW/LKAS Equipped Vehicles:

- Windshield damage within the FCW/LDW/LKAS camera's field of vision can cause any these systems to operate abnormally.
- Only a genuine Acura replacement windshield should be installed. Installing an aftermarket replacement windshield may also cause abnormal operation .

ELECTRICAL PIGTAIL AND CONNECTOR REPAIR

- Disconnect the vehicle's 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.



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 plug when priming or painting.

