2022 MDX Model Series: New Body Repair Information

APPLIES TO

2022 MDX Model Series

NOTE: This publication contains a summary of new body and vehicle technologies that may affect collision and other body repairs. Always refer to the service information and body repair manual (BRM) for complete repair information. A subscription may be purchased at *techinfo.honda.com.*

OVERVIEW OF BODY FEATURES

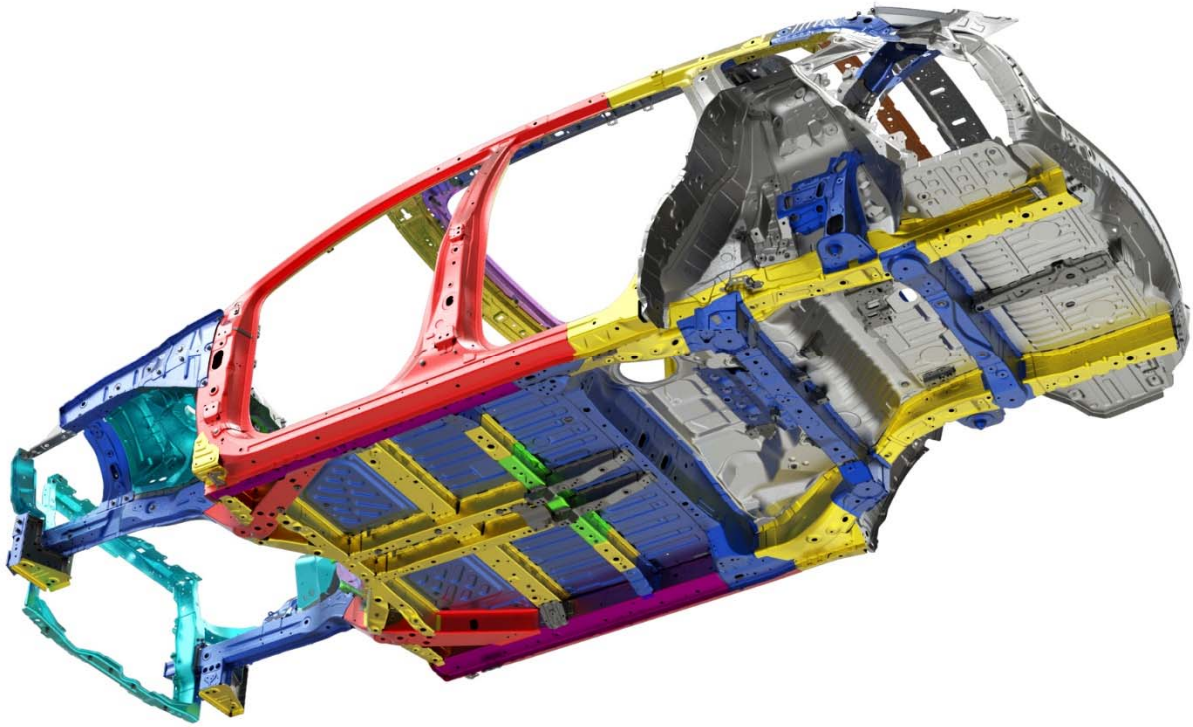
- Next-Generation Advanced Compatibility Engineering™ (ACE™) body structure
- Body construction using high-strength steel and advanced high-strength steel
- Aluminum hood panel, front fender, front damper housing, and front and rear bumper beams for weight reduction and improved fuel efficiency
- 1500 Mpa inner and outer door stiffener rings

BODY CONSTRUCTION AND HIGH-STRENGTH STEEL CONTENT

- Steel parts are color coded based on their tensile strength in megapascals (MPa).
- High-strength steel (HSS) is defined as any steel with a tensile strength of **340 MPa** or higher.
- Ultra-high-strength steel (UHSS) is defined as any steel with a tensile strength of **980 MPa** or higher.
- Steel repair and welding procedures vary depending on the tensile strength of the parts involved.

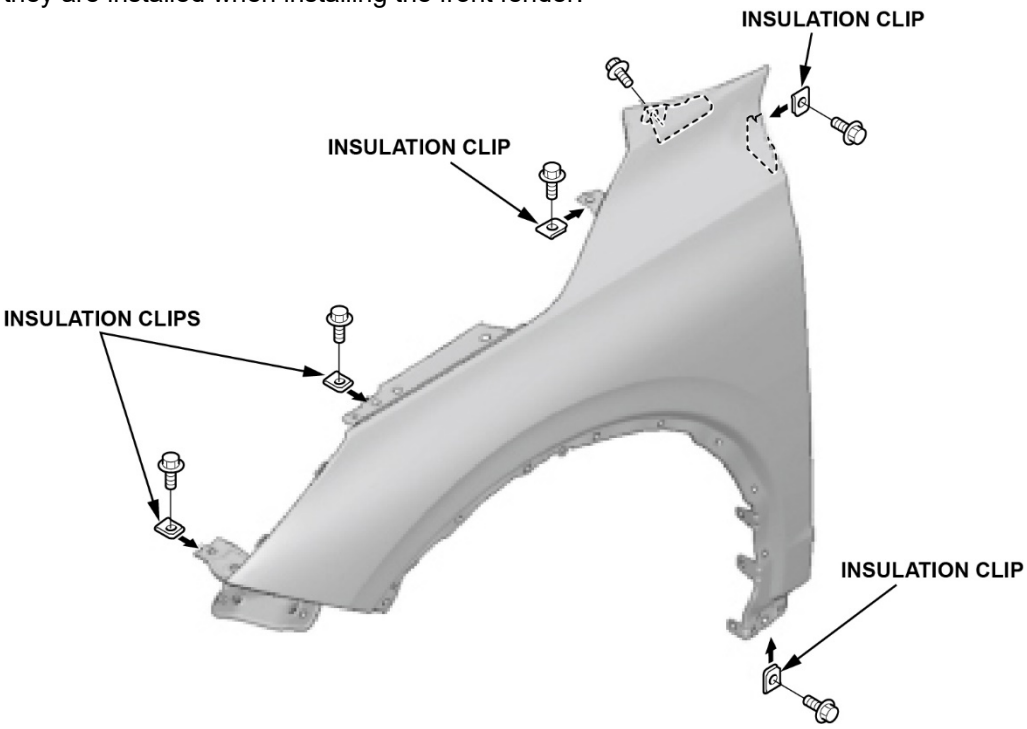
NOTE: The illustrations below are for general reference only. Some body parts are constructed from multiple layers of different tensile strength steels. Always refer to the body construction section of the BRM for specific steel tensile strength information.


1180 Mpa
1500 Mpa
980 Mpa
780 Mpa
590 Mpa
440 Mpa
340 Mpa
270 Mpa
Aluminum



FRONT FENDER INSTALLATION

Insulation clips are installed at every mounting point of the aluminum front fender to prevent galvanic corrosion. Make sure they are installed when installing the front fender.

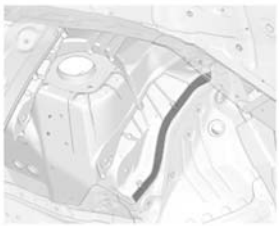


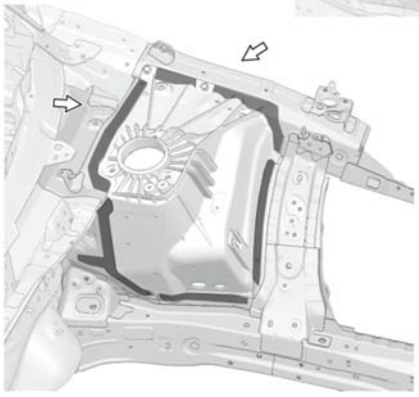
ALUMINUM DIE CAST FRONT DAMPER HOUSING

The 2022 MDX employs an aluminum die cast front damper housing, which can be replaced only as an assembly. The mating surface between the front damper housing and the steel front wheelhouse are coated with high-performance adhesive (HPA) and fastened with self-piercing rivets (SPRs). The SPR will be preset in the replacement damper housing. Dye penetrant should be used for inspection on vehicles involved in significant front-end collisions.

Refer to the following sections of the BRM for additional information:

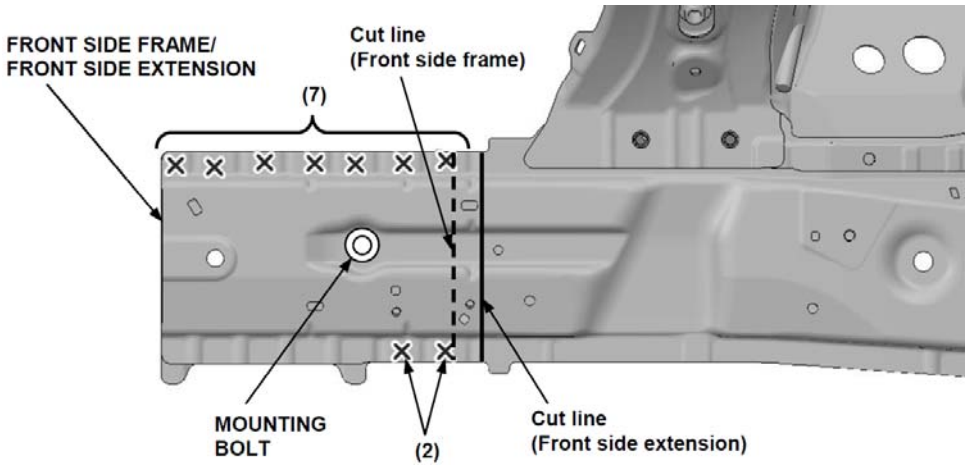
- Precautions for Replacing Aluminum Die Cast Parts
- Front Side Frame, Front End Parts Replacement
- Front Wheelhouse/Damper Housing Replacement
- Front Side Frame Replacement





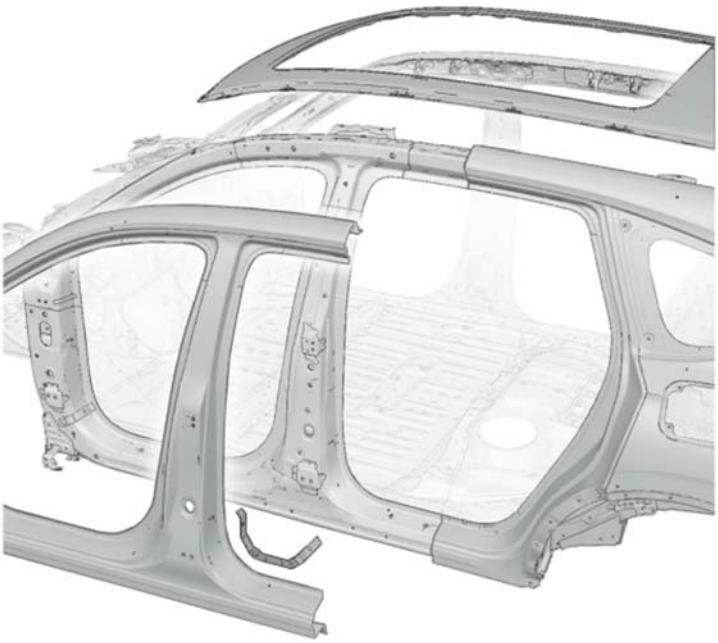
FRONT SIDE FRAME REPAIRS

The front portion of the front side frame may be sectioned, but only at the designated position. Otherwise, the frame must be replaced. Acura does not approve of repairs to steel panels above 590 Mpa. Refer to the replacement procedure for the front side frame, front portion for more information.



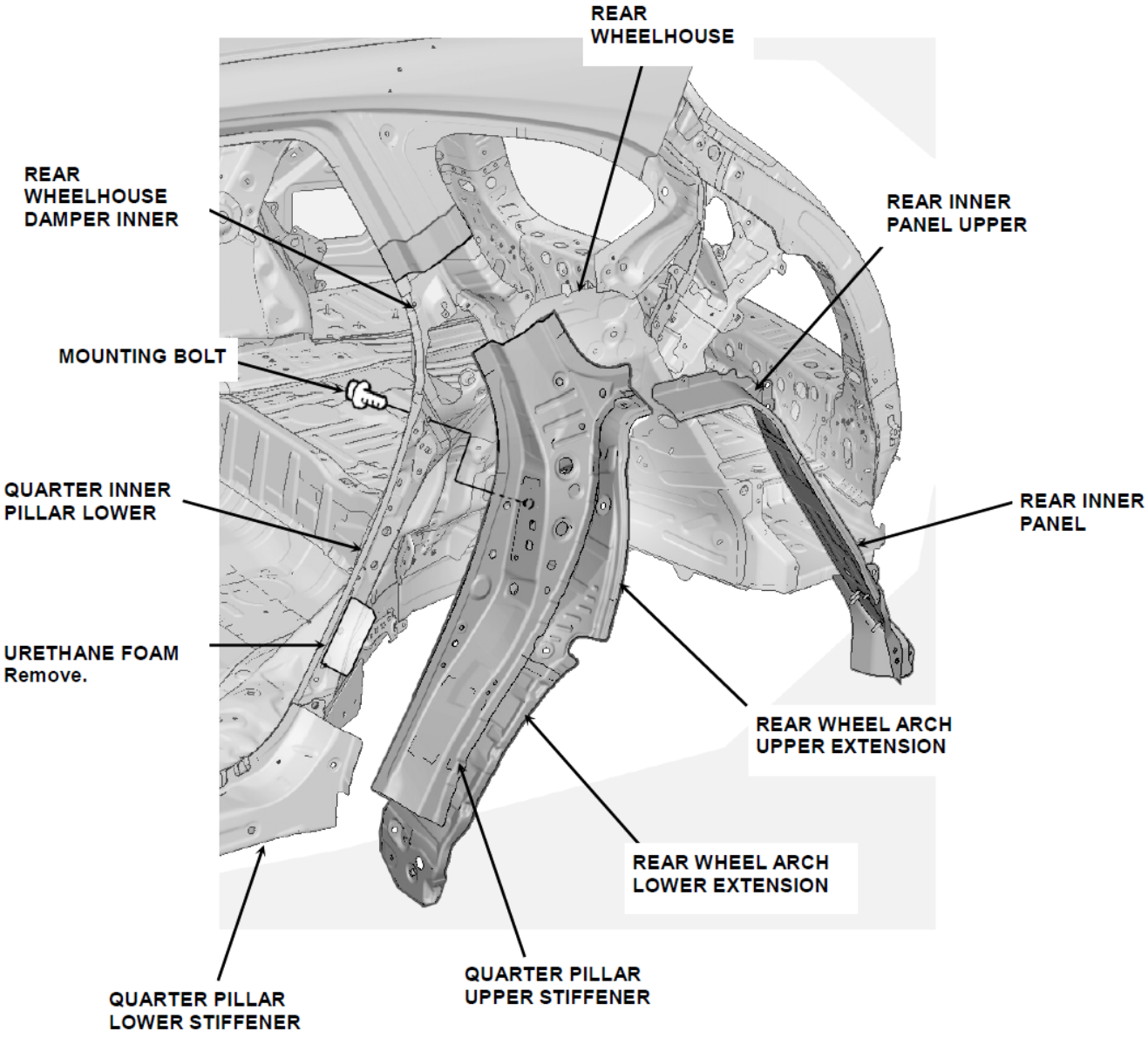
1500 MPA OUTER STIFFENER RING (D-RING)

Complete replacement is required; no repairs are allowed. Installation requires prewelding and application of adhesives in some positions before installation. Refer to the outer stiffener ring replacement procedure for more information.



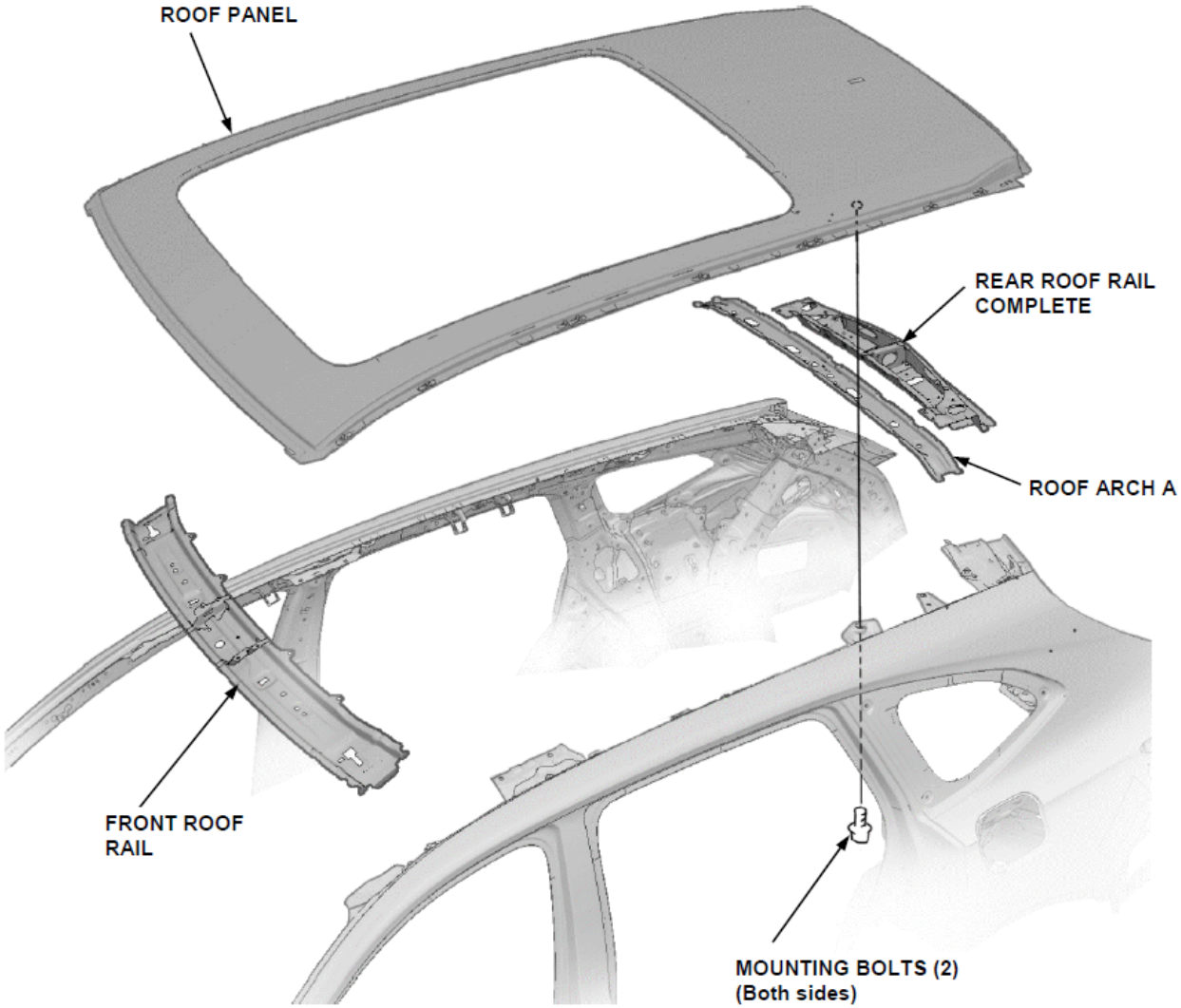
REAR INNER PANEL REPLACEMENT

Acura now provides replacement procedures and offers replacement parts for the body parts shown. Refer to the rear inner panel replacement procedure for more information.



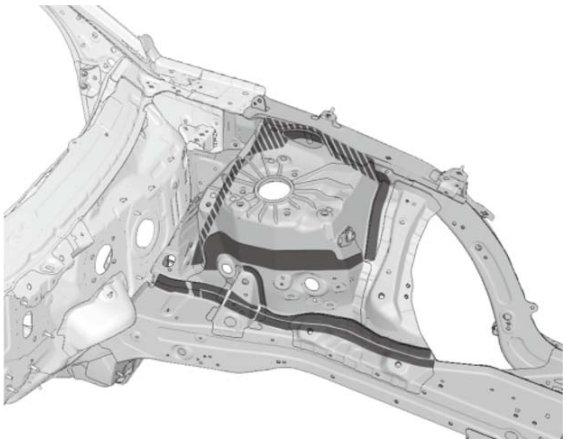
ROOF PANEL

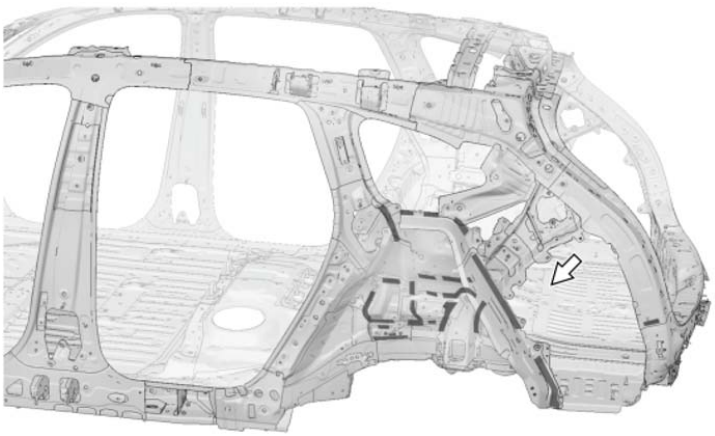
The roof panel is comprised of a 6-piece, tailor-welded roof for optimized weight and rigidity. In addition, the panoramic roof glass openings are roll-hemmed. A combination of welding and use of adhesives and mechanical fasteners are required for replacement. Refer to the roof panel replacement procedure for more details.



IMPACT-RESISTANT STRUCTURAL ADHESIVE

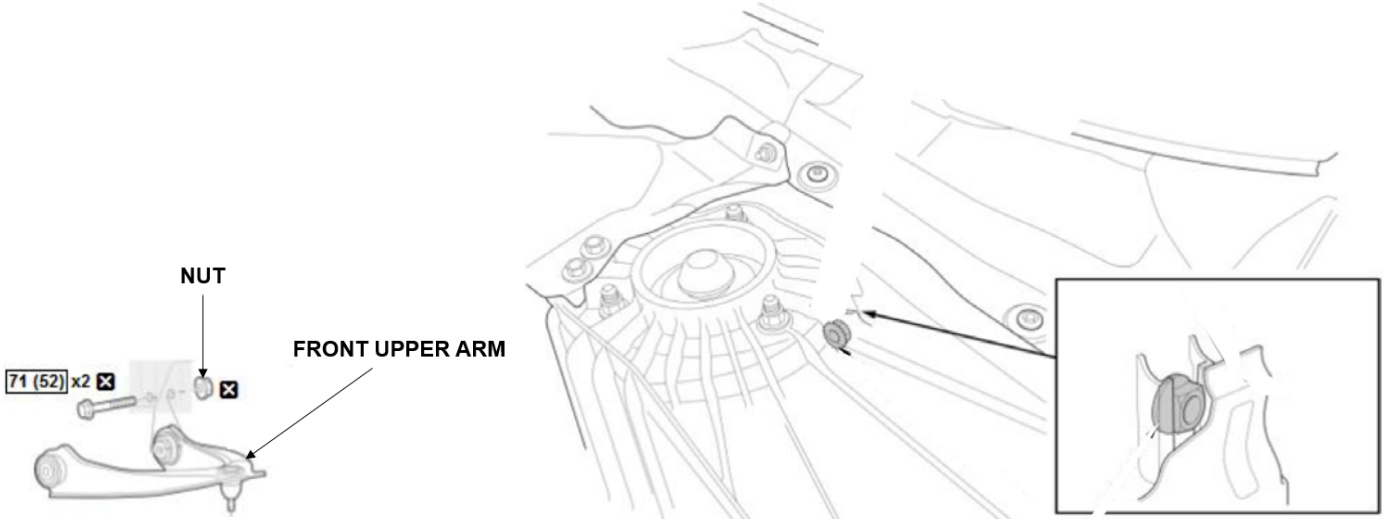
Impact-resistant structural adhesive is used extensively throughout this vehicle. Acura recommends using 3M 7333 or a commercially available equivalent adhesive. Refer to the section in the BRM titled Welding Conditions for Adhesive Application Areas.





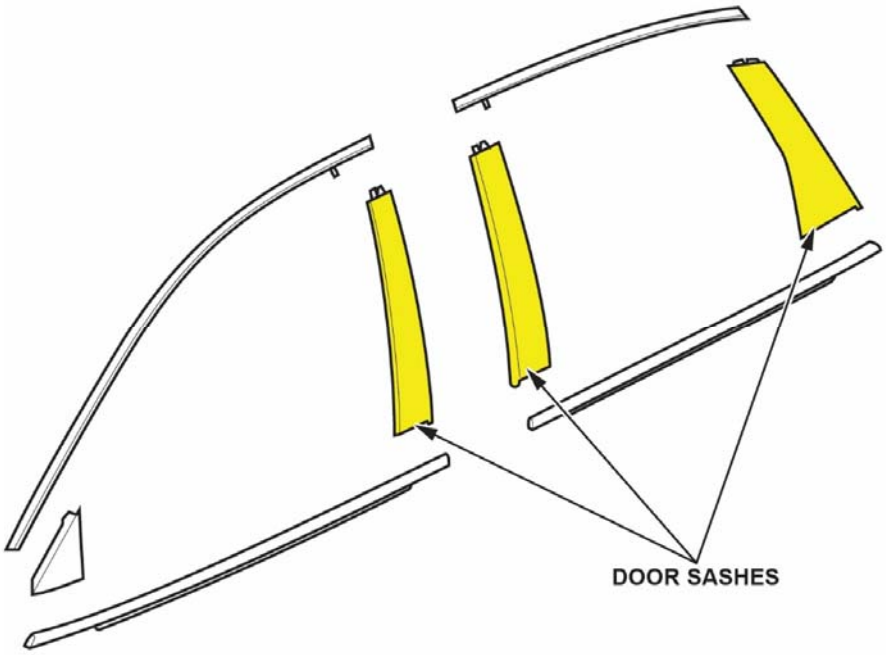
FRONT UPPER ARM NUT REPLACEMENT

The nut securing the front upper arm is not accessible, and a hole must be made to access it. Refer to the front and rear suspension service precautions in the service manual for the replacement procedure.



DOOR SASH OUTER TRIM

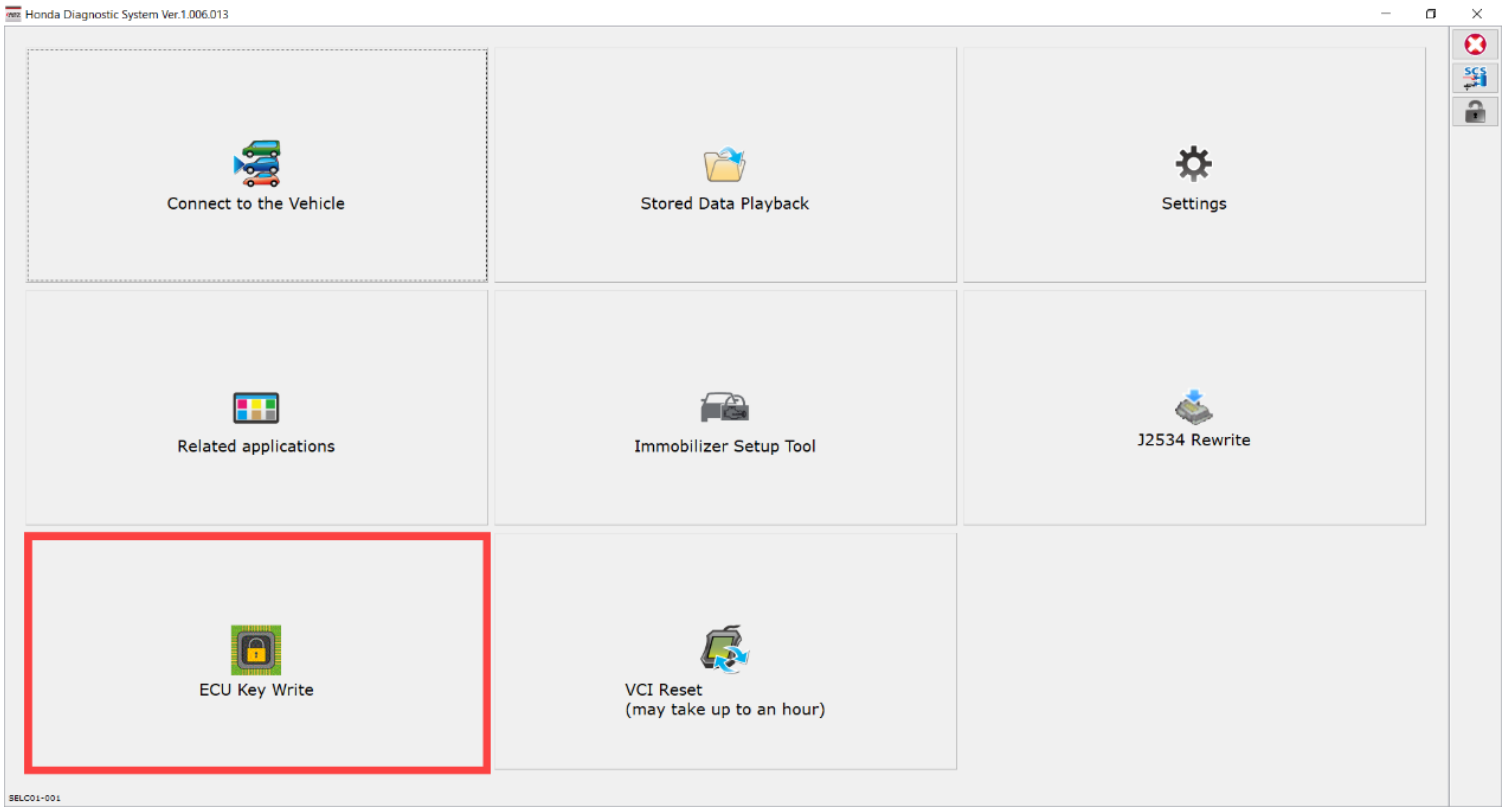
Door sash outer trims come with a high-gloss, mirror finish that can scratch easily. To help hide any scratches, Acura recommends using Meguiar's Scratch X2.0 Fine Scratch and Blemish Remover.



ECU KEY WRITE

Similar to the 2021 TLX model series, a security key code protocol is being introduced for certain electronic control units (ECUs). This protocol provides secured communication between control units, helping to prevent cyberattacks from outside sources.

When replacing control units like the VSA modulator control unit, you will need to access the **ECU Key Write** application in the i-HDS. For more information, refer to the job aid, *Using the ECU Key Write Application in the i-HDS*.

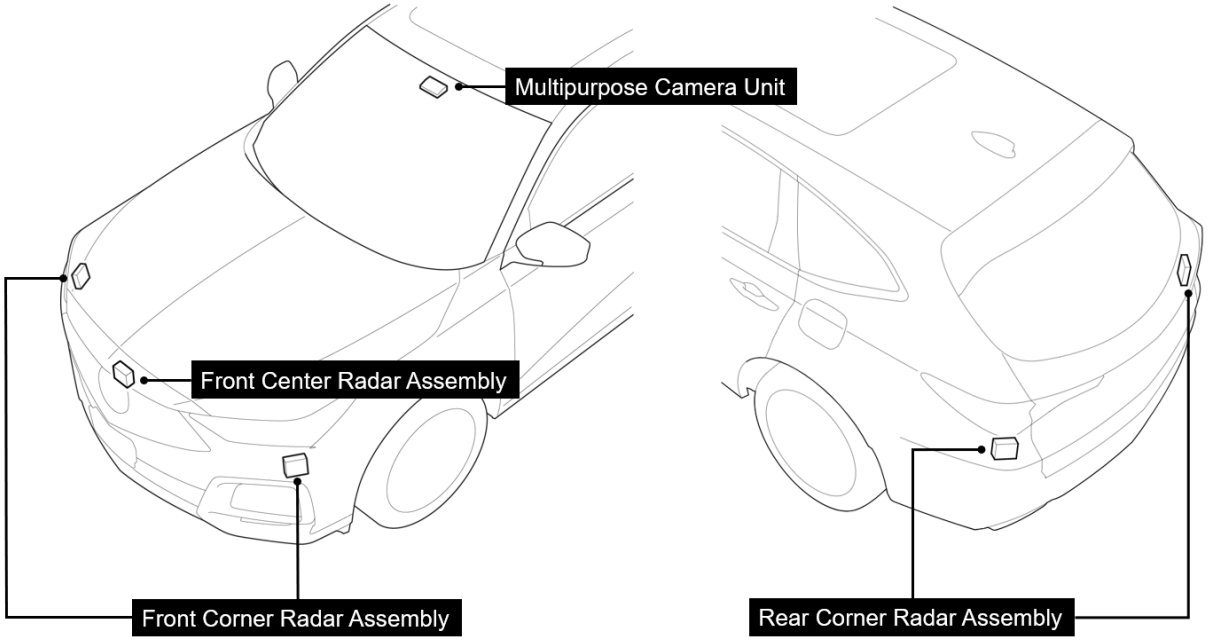


DRIVING SUPPORT ENHANCEMENTS

New for the 2025 model year MDX Type-S models with the Advance Package, introduces the new AcuraWatch™ 360 system that introduces more advanced driver assistive capabilities with an additional front and rear corner radars, a higher-fidelity front camera, and new front millimeter wave radar.

The Type-S Advance adds:

- Front Cross Traffic Warning
- Collision Mitigation Braking System™ (CMBS™) with Advanced Pedestrian Detection
- Cornering Speed Assist
- Lane Change Collision Mitigation
- Active Lane Change Assist



NOTE: The Front Center Radar Assembly is also referred to as the Millimeter Waver Radar.

For more detail information on this new system and the new components, refer to the following information.

Driving Support System Description (25 Integrated Driver Support System (Camera and Five Radars)).

Radar & Camera Aiming

Refer to the information below when to do a radar or camera aim.

Vehicle Conditions that require Millimeter Wave Radar Aiming (25 Integrated Driver Support System (Camera and Five Radars))
Vehicle Conditions that require Multipurpose Camera Aiming (25 Integrated Driver Support System (Camera and Five Radars))

Aiming Equipment

The only approved aiming equipment to aim the radars and camera for the Type-S Advance are the following:

Hunter Ultimate ADAS™

Bosch SCT 418

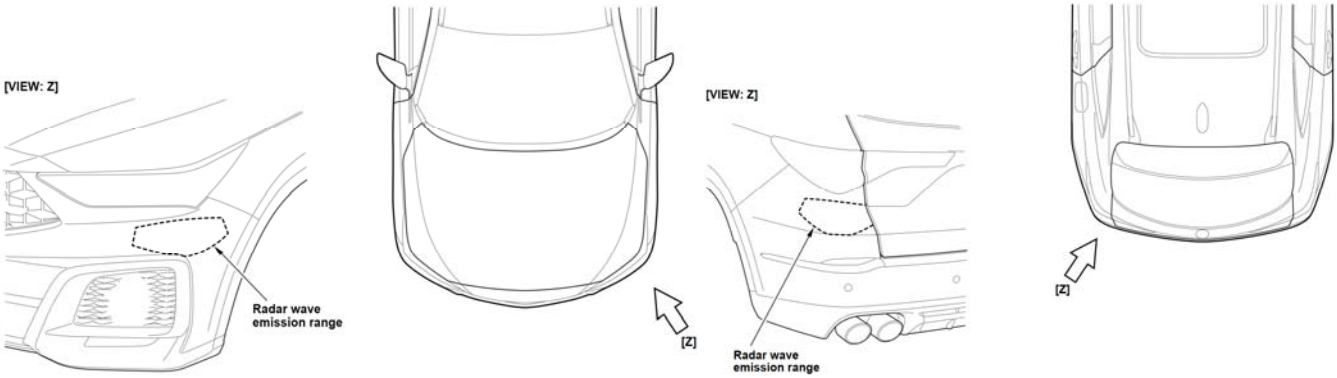
Refer to the job aid, *Getting Started Using Electronic Target Positioning Systems* available in SIS for more information.

Precautions on Paint

The front and rear bumpers have specifications that effect the performance of the front and rear corner radars. Depending on the damaged area, the radar may not operate properly if these specifications are not met. Before repairing and painting the bumper, make sure you review the information in the **Precautions for Handling Bumper (25 Integrated Driver Support System (Camera and Five Radars))** section.

This section will go over:

- Conditions that can be repaired and not repaired.
- Radar emission range.
- Repair and painting specifications.
- Use of templates.



After the bumper is painted, you must perform the procedure, **Static Inspection For Radar Sensor Visibility- Adjustment** to ensure that the repair was done correctly. Make sure to do the corner radar aiming procedure after the inspection.