

RCI-52-26-001-1: R2 Material Matrix and Repair Guide

Rivian Automotive, LLC Service Document

Document Type	Collision Repair Information Document
Date	May 28, 2026
Affected Region(s)	USA
Affected Model(s)	R2
Model Year(s)	2026+
Vehicle System	52 - Body

Rivian body and frame structures have been assembled from different grades of a variety of materials. These materials include, but are not limited to, stamped steel, aluminum sheet, aluminum extrusions, aluminum castings, and molded plastics. Before starting a repair, refer to the tables and diagrams in this document to identify the type of material being worked on and the allowed operations for each type of material.

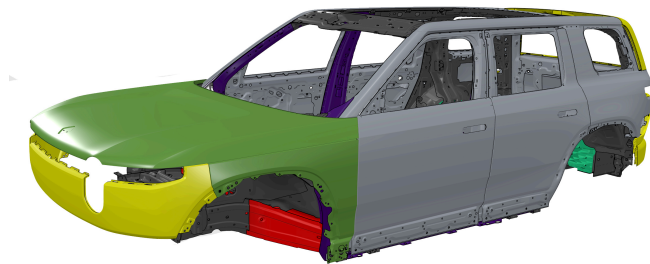


Table of Allowed Operations

Color Key	Material Type	Welding		Heat Straightening	Cold Straightening
		GMA	STRSW		
■	Conventional Steel	Yes	Yes	Max of 600°C up to 60 seconds (limit 2 times**)	Yes
■	Advanced High Strength Steel	Yes	Yes	No	Yes
■	Ultra High Strength Steel	No*	Yes	No	Yes
■	Press-Hardened Steel	No	Yes	No	No
■	Aluminum Sheet	Yes**	No	Max of 60° C**	Yes
■	Aluminum Casting	No*	No	No	No
■	Plastic	N/A	N/A	Yes***	Yes***

*Except as directed in vehicle specific repair procedures.

**Refer to Material Repairability Method Guidance for additional limits.

***Following industry standard procedures.

Material Repairability Method Guidance

Straightening:

- Allowed for repairs on damaged panels depending on material type, provided the base material is not compromised after the repairs, as defined below:
 - Metal is NOT over stretched from original condition (typically observed as “oil-canning”).
 - Metal is NOT thinned down from original condition.
 - Metal is NOT cracked. If cracks exist, GMA weld repair is acceptable depending on material type, as defined in the table of allowed operations.
- When appropriate, Paintless Dent Repair (PDR) and/or glue-pulling are preferred.
- Structural pulling is NOT allowed, except as defined in the Structural Pulling section of this document.
- Heating of panels during straightening operations is acceptable depending on material type, as defined in the Table of Allowed Operations..



CAUTION: Do NOT heat adhesive bonded joints above 100° C unless the adhered component is being replaced.

GMA Welding:

- May only be performed with approved welding wires.
- Allowed for repairs of minor tears or punctures in conventional steels as well as aluminum sheets of less than, or equal to, 1.2mm in thickness.
- Allowed as specified in the vehicle specific repair procedure(s).
- Refer to the [General Repair Guidelines](#) for additional information.

Resistance Welding:

- Recommended when replacing factory spot welds.
- Refer to the [General Repair Guidelines](#) for additional information.

Sectioning:

- In some cases, may be allowed for partial replacement.
- Refer to the vehicle specific repair procedure(s) for additional information.

Repair Limitations

Aluminum Repairs:

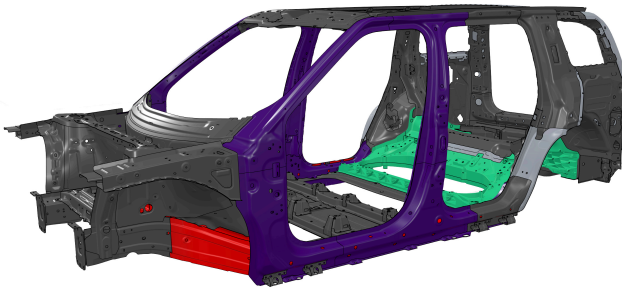
- Only use aluminum-specific tools and equipment when repairing bare aluminum.

Plastic Repairs:

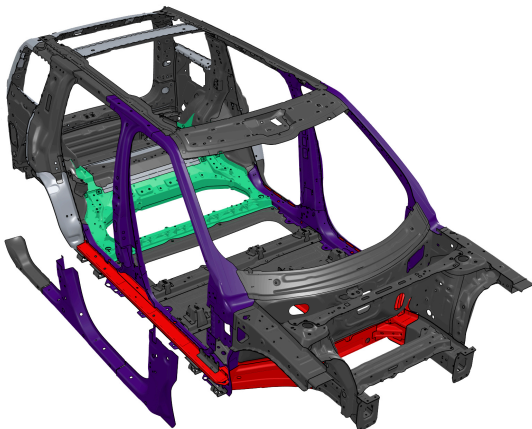
- Most plastic components can be repaired with special tooling, adhesives, and proper training.
- Direct repair of minor broken tabs is preferred as compared to full component replacement, whenever possible.
- Fascia repairs for vehicles equipped with radar sensors behind the plastic fascia are limited. Refer to [RCI-86-26-003-1: Advanced Driver Assistance System \(ADAS\) Calibration Requirements and Best Practices, R2](#) for vehicle specific requirements.

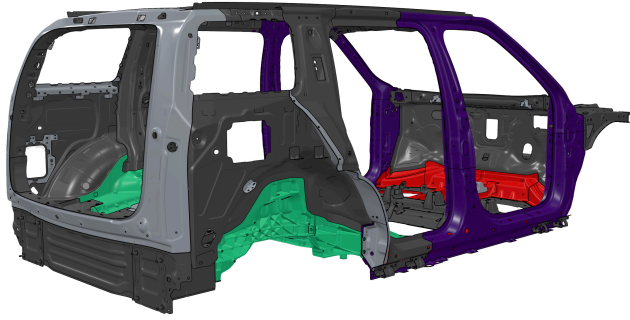
Safety Components:

- Deformation damage in the vicinity of impact sensors, seat belts, airbags, and other safety components may NOT be repaired. Damaged structures in these areas must only be replaced. Refer to [RCI-72-26-001-1: R2 Supplemental Restraint System \(SRS\) Overview and Servicing Guidelines](#) for component locations.

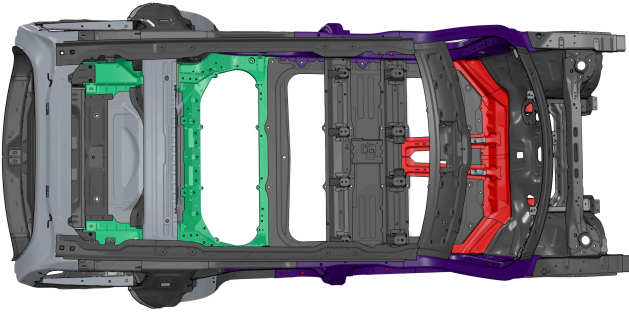
Material Identification
Body Structures


Color Key	Material Type
■	Conventional Steel
■	Advanced High-Strength Steel
■	Ultra High-Strength Steel
■	Press Hardened Steel
■	Aluminum Casting
■	Plastic

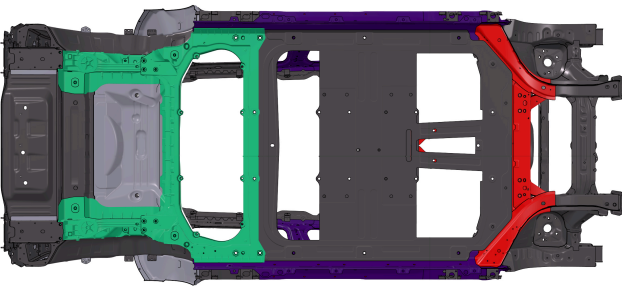
Body Structures - Additional Views
Front Right - Quarter View

Rear Right - Quarter View



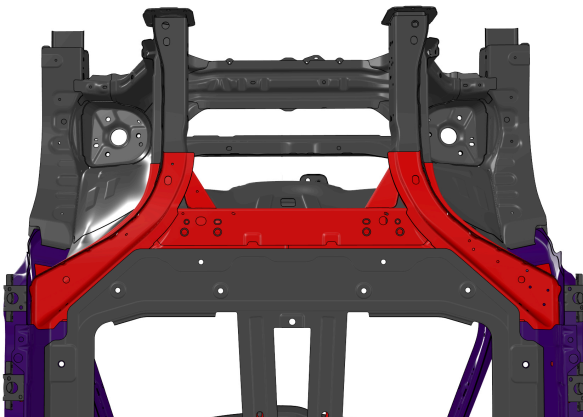
Top View



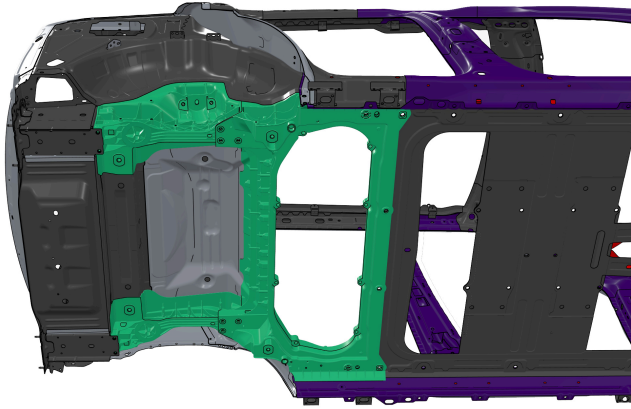
Bottom View



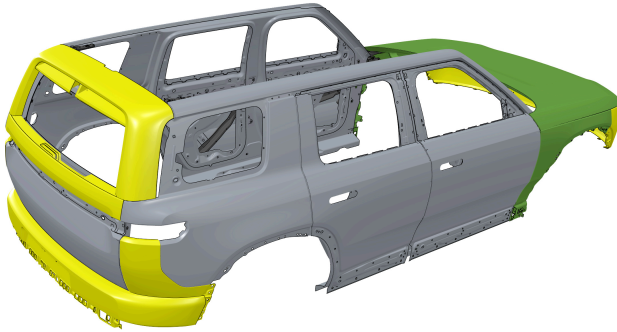
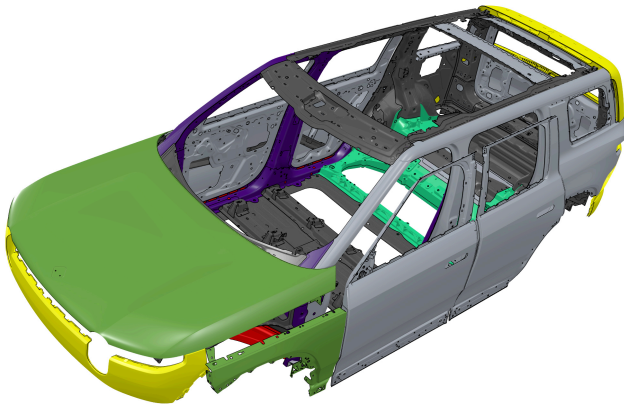
Bottom View - Front Structure



Bottom View - Rear Casting



Closures & Exterior Trim



Color Key	Material Type
■	Conventional Steel
■	Aluminum Sheet
■	Plastic

Repair Guide

Cosmetic Sheetmetal Repairs

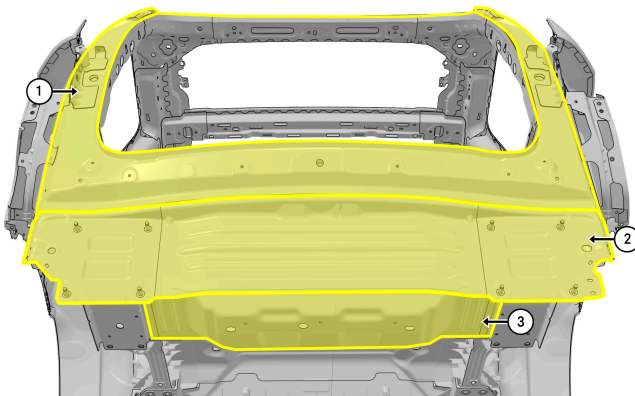
Rivian recommends glue-pulling for light dent repair, especially when the paint finish is not broken and there is a possibility of completing the repair without refinishing. When dents are beyond the capacity of glue-pulling, welded pin pulling of the damage is preferred over component replacement, as long as the repair adheres to the guidelines for the specific material type.

Areas of Concern

The rear body panel section between the D-Pillar Upper/Lower Assembly, Outer, the Back Panel, Outer and the Spare Tire Compartment, may experience denting, or light creasing, in minor rear end impacts. Cosmetic repair of this damage within the material repair guidelines is recommended instead of full panel replacement, provided there are no indications of more damage to the underlying structure, or other concerns that would require replacement of the entire panel.



Note: Minor deformation of the rear body panel behind the crash rails may occur after a low speed impact. If the rails are unaffected, the damage can be considered cosmetic and will not require replacement of the panel.



Number	Component
1	D-Pillar Upper/Lower Assembly, Outer
2	Back Panel, Outer
3	Spare Tire Compartment

Structural Pulling

Rivian defines structural pulling as the electrically or hydraulically assisted realignment of collision damage. While this is a historically accepted industry practice, the complex integration of advanced materials, designs, and joining methods in Rivian body structures can be compromised when subjected to these forces. Consequently, Rivian does not recommend structural pulling except within the strict guidelines and specific scenarios defined in this document. For specific guidance on damage assessment and allowed repair practices, please contact your Regional Rivian Collision or Service Technical Support team.

Aluminum Casting Repair Limitations

The aluminum structural castings utilized in the R2 platform feature specialized material properties that strictly limit repair procedures in certain zones. As of this publication, comprehensive reparability matrices and validated procedures for these components are under final engineering review. For specific guidance



on damage assessment or pending repair criteria, please contact your Regional Rivian Collision or Service Technical Support team.