

RCI-86-22-002-5: Advanced Driver Assistance System (ADAS) Calibration Requirements and Best Practices, EDV

Rivian Automotive, LLC Position Statement

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Affected Region(s)	USA
Affected Model(s)	EDV
Model Year(s)	2022-Present
Vehicle System	86 - Driver Assistance

Rivian has established important guidelines regarding collision repair and interaction with parts on Rivian vehicles to help ensure the vehicle is repaired to Rivian standards. Certified Collision Centers and the collision industry must follow these guidelines to uphold Rivian's standards of safety and quality.

Repair guidelines, position statements, and repair procedures published by Rivian are engineered and tested to help ensure Rivian vehicles are repaired to provide quality, performance, safety, and durability. To meet [Rivian Repair standards](#), repairs should be performed by Rivian Certified Technicians using Rivian approved repair procedures, tools, and Rivian Original Equipment Parts.

Driver+ Overview

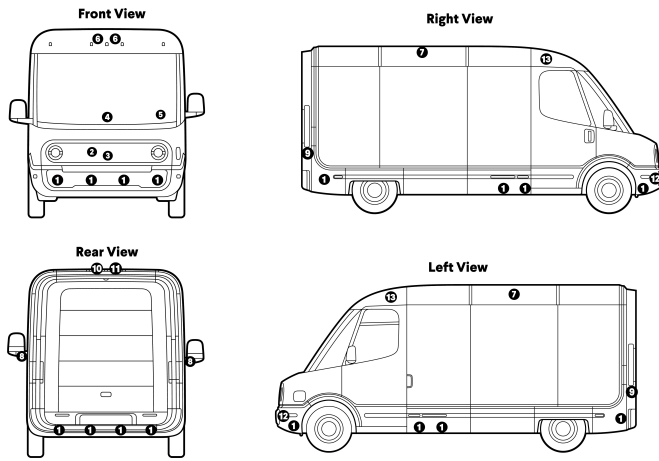
The Rivian suite of Advanced Driver-Assistance Systems (ADAS) is referred to collectively by Rivian as "Driver+". The system is comprised of cameras, radar sensors, antennas, and ultrasonic sensors that aid with vehicle operation. To meet Rivian Standards, all repairs and calibrations involving ADAS components should be performed by a Rivian Certified Technician at either a Rivian Service Center or Rivian Certified Network Location (i.e. Rivian Certified Collision Centers, Rivian Calibration and Diagnostic Centers, etc.). After repair, the ADAS components may need to be calibrated before the vehicle can be returned to the customer, however, not all components will require calibration. Refer to the appropriate service procedure(s) for detailed and vehicle-specific calibration instructions.

Always refer to the appropriate Rivian Service Manual for information on removal, installation, fault tracing, and calibration.



Warning: Improper maintenance and calibration of Driver+ components may result in catastrophic failure of the system, which can cause severe injury or death.

Driver+ Component Locations



Number	Component Type
1	Ultrasonic Sensor(s)
2	Sensor, Radar, Front, Center
3	Camera, Front Fascia
4	Camera, Driver Assistance, Front
5	Camera, Long Range, Front Camera, Amazon, Front, 4K
6	Camera, Roof, Front (x2)
7	Camera, Surround, Side, Middle
8	Camera, Lane Change, Mirror
9	Sensor, Radar, Rear
10	Camera, Surround, Rear
11	Camera, Reverse
12	Sensor, Radar, Front
13	Camera, Amazon, Side, Front

Component Calibration Requirements




Important: Always refer to the Service Manual procedures for the latest calibration requirements. Calibration requirements in the Service Manual supersede any calibration requirements listed in this document.

Camera Calibration Requirements

Driver Assistance Cameras

Camera	Calibration Style	Calibrate When:
Camera, Driver Assistance, Front	Static or Dynamic	<ul style="list-style-type: none"> • Camera, Driver Assistance, Front is replaced or removed and installed • Camera, Driver Assistance, Front, Bracket is replaced or removed and installed
Camera, Long Range, Front	N/A	Calibration not currently required for these components
Camera, Lane Change, Mirror		
Camera, Roof, Front		

Surround View System

Camera	Calibration Style	Calibrate When:
Camera, Front Fascia	Static	Applique, Fascia, Front, Center is replaced or removed and installed  Note: If the Fascia, Front, Upper is replaced or removed and installed, check for image clarity at the front corners of the Surround View Camera feed, where the side and front camera views are blended together to determine if calibration is necessary
Camera, Surround, Side, Middle		Camera, Surround, Side, Middle is replaced or removed and installed
Camera, Surround, Rear		Cameras and Bracket, Rear is replaced or removed and installed

Radar Calibration Requirements

Camera	Calibration Style	Calibrate When:
Sensor, Radar, Front, Center	Static or Dynamic	<ul style="list-style-type: none"> • Sensor, Radar, Front, Center is replaced or removed and installed • For front upper fascia removal and install, no calibration is necessary if you confirm radar angle is the same before and after the repair is performed
Sensor, Radar, Rear, LH/RH Sensor, Radar, Front, LH/RH	Dynamic	LH and RH radar sensors calibrate automatically when the vehicle is driven



Note: Ultrasonic Sensors do not require calibration.



Important: All new radar components must be variant coded when installed. Variant coding is not needed if the radar is removed and re-installed. Refer to the appropriate RiDE procedure.

Additional Cameras

The cameras listed below are not a part of the driver assistance system and do not require any calibrations:

- Camera, Amazon, Front, 4K
- Camera, Amazon, Side, Front
- Camera, Reverse

Calibration Guidelines

Vehicle Suspension Alignment

The vehicle suspension alignment must be within specification for successful operation of the ADAS components after calibration(s). Not all Rivian vehicles will require an alignment prior to calibration. If suspension alignment is required, the Rivian approved target placement system will inform the technician during the Driver Assistance Calibration Setup.




Note: Always test drive the vehicle after suspension alignment to verify no additional ADAS related DTC codes are logged.

Module Calibration

Assistance from Rivian Service is needed for some module coding and/or calibration(s). Refer to RiDE to verify if new procedures are available. If coding or calibration assistance is required, contact Rivian Diagnostic Support at: 3pdiagnosticsupport@rivian.com.

Rivian Approved Target Placement System

To meet Rivian Standards, only use Rivian approved tooling to calibrate ADAS components. Rivian approved calibration tooling can only be purchased by a Rivian Certified Network Location after enrollment is confirmed.

-  **Important:** The modification of Rivian approved tools or the resizing of calibration targets is strictly prohibited. Modifications and resizing can result in improper calibrations that may compromise the safe operation of the vehicle.

Test Drives

A test drive should be performed after a suspension alignment or an ADAS component calibration has been performed to make sure no additional ADAS related DTC codes are logged. A test drive of 20 minutes in duration averaging above 20 mph in moderate traffic is recommended. Activation of ADAS features during the drive is not required.

Calibration Labor Time Guide


The following times are based on internal time studies performed by Rivian and factor in the unique differences found in third-party repair environments that are not present in Rivian Service Centers.

Procedure	Labor Time (hrs)	Notes
Pre ADAS-Calibration Vehicle Inspection	0.5	Includes checking tire pressure, firmware check and update launch as required, estimate review, and required calibration repair planning.
RiDE Set-Up	0.3	One time procedure – Includes connection and initial software setup prior to performing calibration process.
Driver Assistance Calibration Setup	1.0	Includes setup of the approved target placement system and the alignment checks with the vehicle during the initial calibration process, as well as time to store the equipment after use.
Corner Radar Variant Coding	0.2	Performed in RiDE for corner radar replacements. Run once per replaced radar.
Sensor, Radar, Front, Center (Calibrate)	0.8	Includes time for the following: <ul style="list-style-type: none"> • Calibrating position of vehicle relative to calibration equipment • Positioning of component calibration targets • Activation of RiDE calibration routine • Retrieving and putting away calibration targets
Camera, Driver Assistance, Front (Calibrate)	0.8	
Surround View System (Calibrate)	1.0	Required only once when one or more of the following cameras are replaced or removed and installed: <ul style="list-style-type: none"> • Camera, Front Fascia • Camera, Surround, Side, Middle • Camera, Surround, Rear Includes time for the following: <ul style="list-style-type: none"> • Calibrating position of vehicle relative to calibration equipment • Positioning of component calibration targets • Activation of RiDE calibration routine • Retrieving and putting away calibration targets
Post Calibration Test Drive	0.5	Only required when a thrust angle adjustment was performed during any part of a required suspension alignment.

Repair Restrictions

Vehicle Wraps

Third-party external vehicle films such as vinyl wrap or Paint Protection Film (PPF) that are not manufactured by XPEL may affect the performance of ADAS components. Refer to [RCI-52-24-004-1: Paint Protection Film \(PPF\)](#) for more information.

 **Important:** Other physical modifications that include but are not limited to: bolt-on accessories, suspension modifications that alter the vehicle ride height, or other modifications not explicitly approved by Rivian, may affect the performance of driver assistance components.