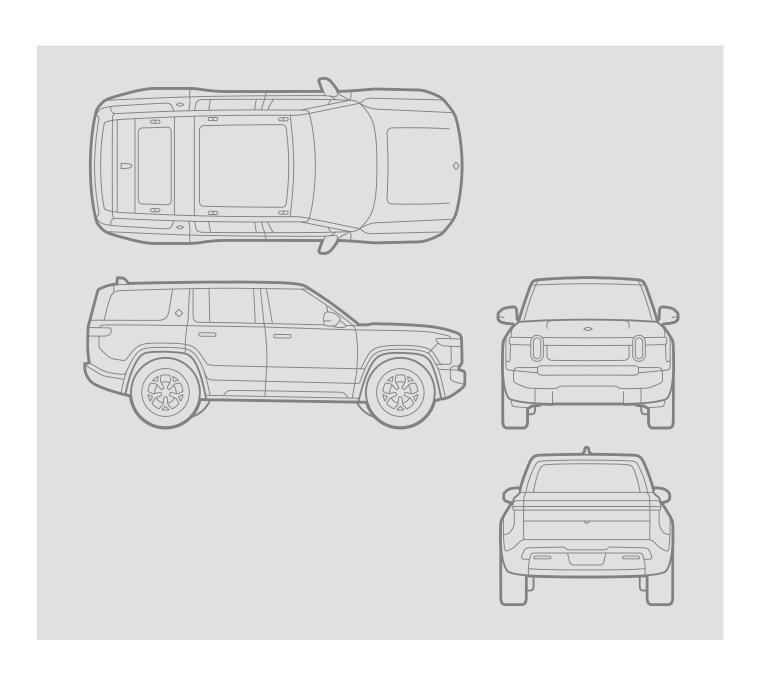


R1S

Emergency Response Guide





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Summary

This Emergency Response Guide provides information and suggested best practices for mitigating an emergency with a Rivian electric vehicle.

RISKS: Fire, Electrocution and Inhalation Hazards

- High-voltage lithium-ion <u>battery fires</u> in electric vehicles <u>differ from gasoline fires</u> because of the chemical reaction in the battery and <u>high-voltage electricity</u>. Both types of fires can be very dangerous, but an electric fire may present different risks. As in gasoline vehicle fires, inhalation hazards exist from combustion products such as toxic and/or flammable gases.
- Always wear <u>personal protective equipment (PPE)</u>, including a self-contained breathing apparatus (SCBA) and use the right tools.

First Secure the Vehicle and Disconnect High Voltage

- Make sure the vehicle is <u>parked and secured</u> from moving. Stabilize the vehicle if it's not upright or is on an unstable surface.
- Disconnect the high voltage by severing the cut loop to disconnect the low-voltage battery from the vehicle.

Avoid Electrocution

- Certain locations on the vehicle are unsafe to cut during a rescue operation/extrication.
- De-energize the electric circuit or disconnect any damaged or burning vehicle that is <u>connected to a</u> charger.

Considerations During a Rescue Operation/Extrication

- Some high-strength steel components may require special equipment.
- Beware of pressurized components that could rupture, fail or suddenly release during a fire.

Be Careful When Moving or Storing a Vehicle

- Use caution when lifting the vehicle or working with submerged vehicles.
- · Tow Rivian electric vehicles on a flatbed only.
- After the fire is extinguished, store the vehicle away from other vehicles and buildings.



Symbols Used in This Guide

The following are the meanings of symbols used in this guide.



DANGER

Risk of electrocution or electric shock



DANGER

Risk of major injury such as

- fire
- · chemical or poison
- · crushing
- · maiming
- death



WARNING

Risk of minor injury



CAUTION

Risk of

- · damage to vehicle or property
- · data disruption
- · voiding warranty

IMPORTANT

Instructions to complete a task successfully

NOTE

Useful information



Avoid High-Voltage Dangers

Note the following instructions for avoiding high-voltage dangers when responding to an emergency involving a Rivian vehicle:

- The vehicle is designed to disable high voltage in a crash, but always assume the vehicle is energized.
- Never cut or damage the Do Not Cut locations on the vehicle.
- Never touch or let tools come in contact with orange high-voltage cables.
- · Don't touch any other exposed electrical parts and cables until the high voltage has been disabled.
- Don't touch any exposed high-voltage battery parts or components.
- Use an insulated tool when cutting the cut loop, if possible.
- Wear personal protective equipment (PPE) and rubber insulating gloves (class 0) with protectors.



Recommended Tools for Rivian Vehicle First Responders

You will need the following tools to respond to an emergency related to a Rivian vehicle:

- rubber insulating gloves (class 0) with protectors
- · personal protective equipment
- wheel chocks (or large blocks of wood)
- · metal circular saw
- · hydraulic cutter
- · hydraulic spreader
- · thermal imaging camera
- Halligan bar
- · insulated cable cutter
- · vehicle stabilization equipment (jacks, cribbing, airbags)



Identify Rivian Electric Vehicles

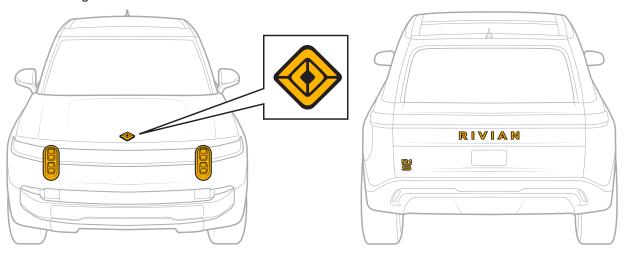
Identify a Rivian R1S electric vehicle by these features:

Front

- Rivian Compass logo hood ornament
- Stadium headlights

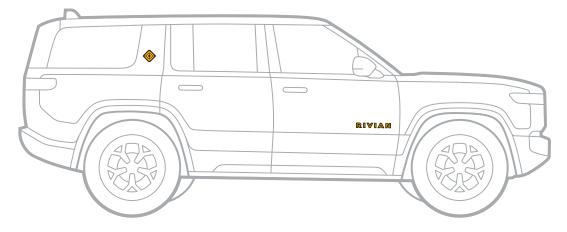


• Rivian name and logo on the liftgate.



Side

- · Rivian name on front door
- Rivian Compass logo on C pillar



Secure the Vehicle

In an emergency, always chock the wheels, put the vehicle in P (Park) and stabilize the vehicle.

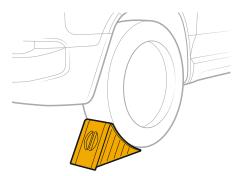
Rivian recommends these high-voltage insulated tools:

- · wheel chocks (or large blocks of wood)
- rubber insulating gloves (class 0) with protectors
- personal protective equipment
- · vehicle stabilization equipment (jacks, cribbing, airbags)

Chock the Wheels and Put the Vehicle in Park

Follow these steps to secure the vehicle and protect people from being hit or crushed.

 Chock the wheels to prevent the vehicle from moving. Chock at least one wheel on each side of the vehicle.

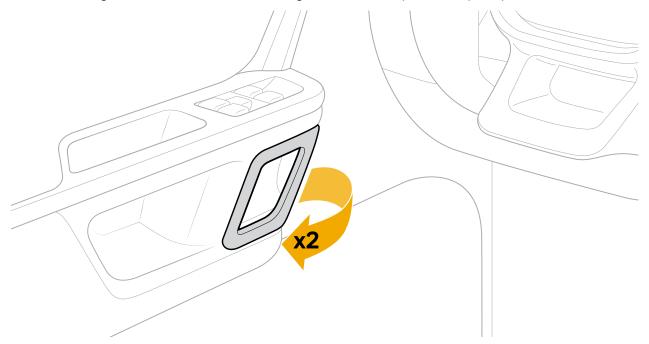




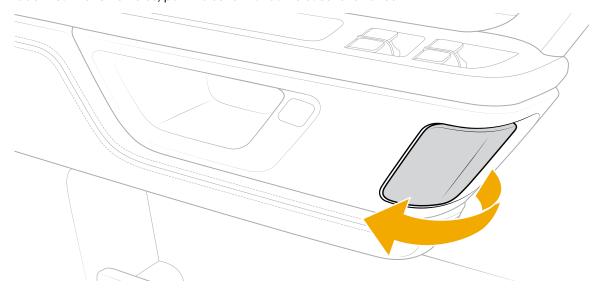
DANGER

Vehicles may move suddenly.

2. Open the driver door. The vehicle unlocks the doors when a crash is detected. If the exterior handles don't work, break the glass. For Model Year 2022 through 2024 vehicles, pull the loop-shaped release twice.



For Model Year 2025 vehicles, pull the solid manual release lever once.



IMPORTANT

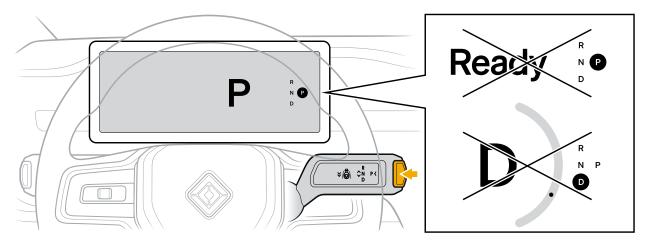
Don't press buttons on the key fob or Rivian phone app that would lock the doors or close the hood.

3. Shift into **P** (Park).

Press the button on the end of the lever on the right side behind the steering wheel.

NOTE

The display shows **P** when you put the vehicle in **P** (Park).





DANGER

If the display shows **Ready**, the vehicle is in high voltage on mode. Immediately press the brake and press **P** on the end of the drive stalk to shift into **P** (Park).



Lift the Vehicle Safely

Rivian recommends you use the following tools to lift the vehicle:

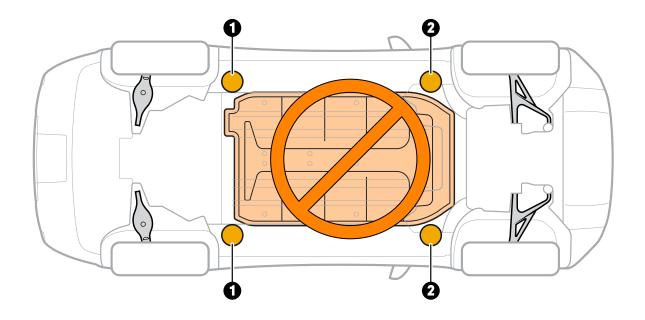
- rubber insulating gloves (class 0) with protectors
- personal protective equipment
- · vehicle stabilization equipment (jacks, cribbing, airbags)

Use Safe Lift Points

Lift the vehicle at these points only.

IMPORTANT

Do not use jacks or lifting equipment such as airbags under the battery pack.



Item	Description
1	Rear jack location (frame rail)
2	Front jack location (frame rail)



Disconnect the High Voltage

Disconnect the high voltage by cutting the vehicle's cut loop. A cut loop is a low-voltage circuit that enables power from the high-voltage battery and supplementary restraint system (SRS). The cut loop is located under the hood and is red with an indicating label.



DANGER

Cutting the cut loop disconnects both the high-voltage battery and the SRS systems within one minute.

Safety Guidance

Before you attempt to disconnect the high voltage by severing the cut loop, take note of the following safety guidance:

Do

- Wear personal protective equipment (PPE) appropriate for the situation.
- Wear rubber insulating gloves (class 0) with protectors until you have verified the vehicle is de-energized.
- · Use an insulated cutting tool if available.

Don't

- Cut into or penetrate any other cables or Do Not Cut locations.
- Touch any orange high-voltage electrical cables.
- Touch electrical or high-voltage battery components.



Don't Attempt If

- Cut loop (low-voltage) cables are inaccessible and can't be easily cut.
- · Vehicle is on fire.
- · Vehicle is in standing water or is submerged.
- You see a sign of potential fire, such as
 - sparks
 - · detached cables
 - · increased temperature
 - · smoke or smell
 - · hissing, gurgling or bubbling
 - · leaking fluid

Cut the Cut Loop

Rivian recommends you use the following tools when cutting the cut loop:

- rubber insulating gloves (class 0) with protectors
- personal protective equipment
- · insulated cable cutter

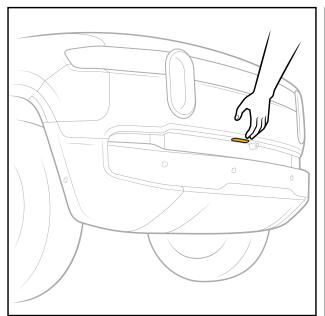
Follow these steps to access the cut loop. The key fob and phone app are the safest options.

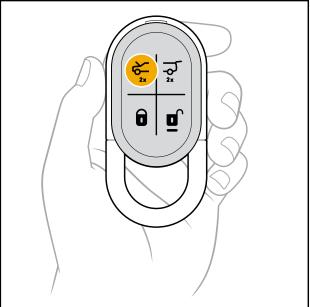


- 1. Use one of these methods to open the hood:
 - Key fob
 - Phone app
 - Button above the front grille
 - Open Hood button on the centre display

NOTE

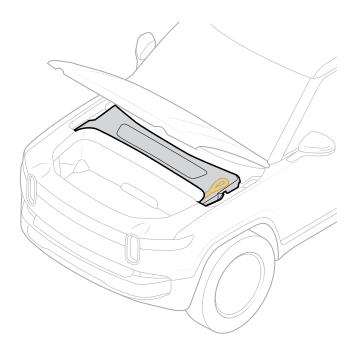
There is no manual override cable in the passenger compartment.







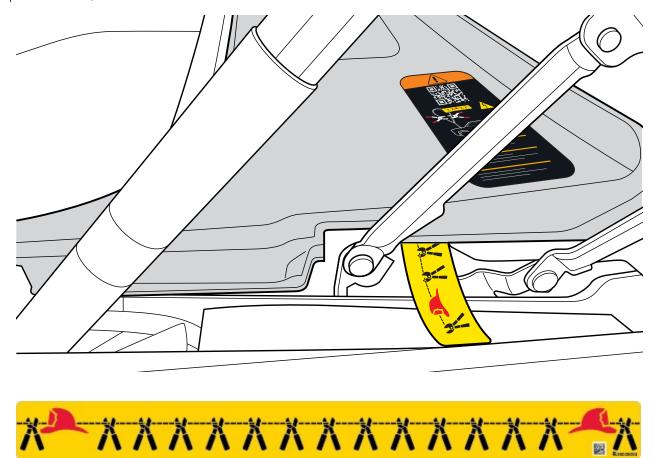




2. Find the yellow cut tag shown.

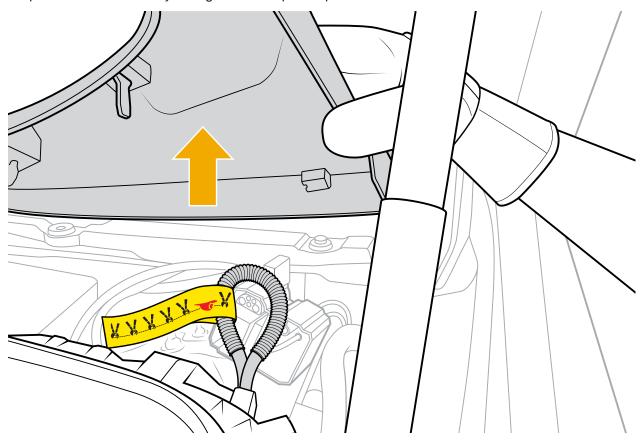
NOTE

The cut loop is under the air intake cover.

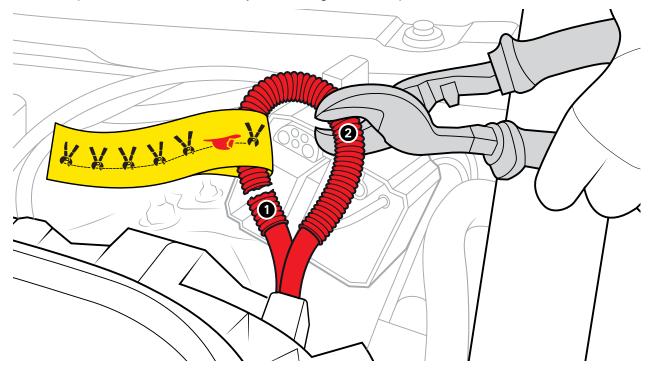




3. Grasp the air intake cover by the right side and pull it up.



4. Find the loop of electrical cable with the yellow cut tag. Cut the loop at one end (1) and at the other end (2).





DANGER

When you cut in two places and remove a section of the cable, it helps prevent the ends of the cable from touching again. If the ends of the cable touch, it could restore high voltage, which could result in death.

5. Wait one minute.

NOTE

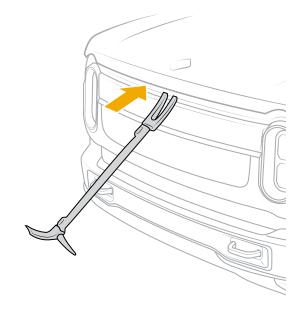
The air bags and seat belt system need up to one minute to discharge any remaining energy.



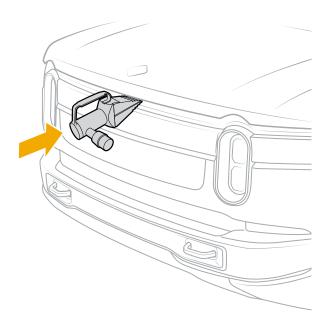
Open the Hood if 12-Volt Power Isn't Working

If you can't open the hood normally but you have time, use the <u>manually open the hood</u> procedure. If you don't have time, open the hood quickly using this procedure.

 Insert the Halligan bar between the lower edge of the hood and the top of the light strip below the hood ornament and pry it open slightly.



- 2. Insert the hydraulic spreader and break the hood latch.
- 3. Lift the hood and follow the Cut Loop procedure.



NOTE

If necessary, you may open the hood with a saw if you avoid the A/C compressor and 12 V batteries.

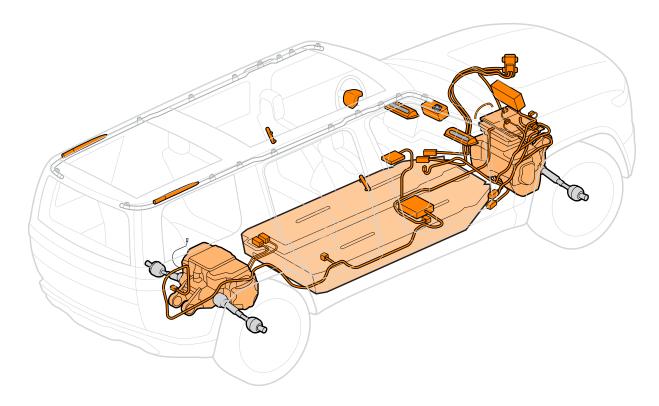


Do Not Cut

Never cut or damage the highlighted areas.

NOTE

The actual location of components and cables may vary.





DANGER

- You could be injured, electrocuted or die if you cut, pierce or damage the highlighted areas.
- These areas contain lithium-ion battery packs, high-voltage cables (up to 450 V), electrical outlet cables (120 V), traditional car batteries (12 V), compressed gas and triggering devices.

Extricate Occupants

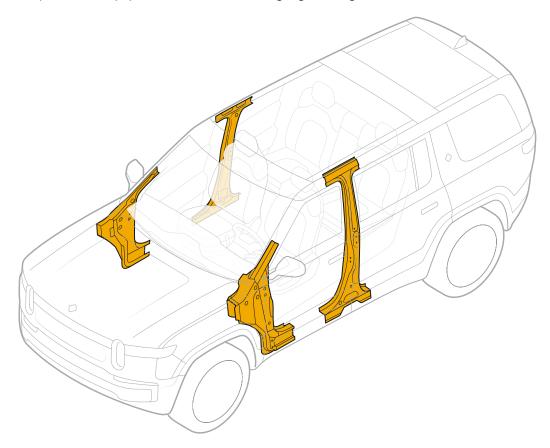
Rivian recommends you use the following tools (high-voltage insulated) to extricate occupants:

- · personal protective equipment
- hydraulic cutter
- · hydraulic spreader
- · metal circular saw
- rubber insulating gloves (class 0) with protectors, if high-voltage battery components are exposed and present a risk of direct contact

Cut High-Strength Steel

The highlighted areas contain high-strength steel to protect passengers. Use a hydraulic cutter to cut these areas. Cutting through this material may take longer than expected.

Wear personal protective equipment (PPE) when cutting high-strength steel.





DANGER

Never cut or damage the Do Not Cut areas.



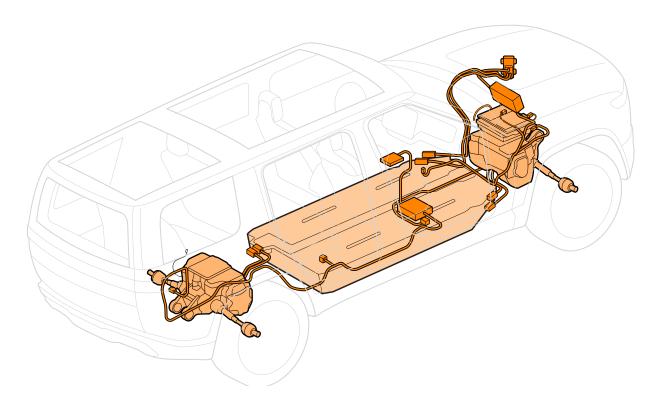
Using a Hydraulic Ram

If you need to use a hydraulic ram to rescue occupants, stay above the floor level, and do not use the floor inward of the door sill. This is to avoid contacting or damaging the high-voltage battery pack below.



Handle a Damaged High-Voltage Battery

Rivian vehicles use a lithium-ion high-voltage battery (up to 450 V) and high-voltage cable next to the axles. In case of fire, do not cut the battery or cables in an attempt to cool them down.



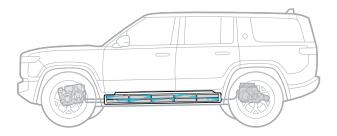


A damaged battery poses a potential electrical hazard that could release harmful and/or flammable gases.



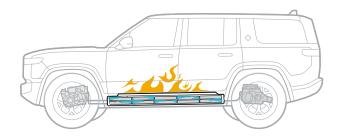
DANGER

The flammable gases that leak from the battery could ignite.



After a fire, clean up by sweeping debris into a pile. Return all debris to the vehicle or containers.

To prevent runoff into nearby storm drains or other waterways, you may deploy fluid gathering materials such as booms or powders to limit runoff contamination.



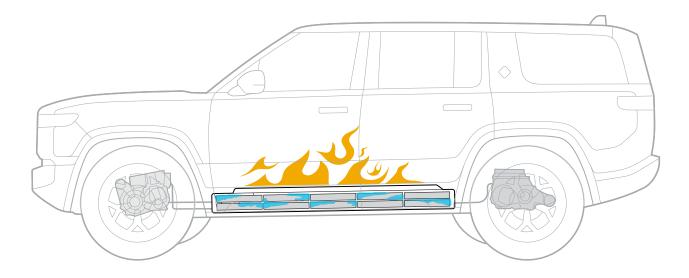


WARNING

- Water applied to the battery pack can become caustic or could cause a chemical reaction and burn the skin. To prevent burns, apply more water for dilution. Rinse tools and clothing to decontaminate them.
- Avoid inhaling battery fire materials. Use personal protective equipment (PPE) to limit contact as much as possible.



Extinguish a Vehicle Fire



IMPORTANT

Rivian believes that electric vehicle fires are best addressed with defensive firefighting and management of the environment to minimize risk. Only attempt to extinguish a fire if you have a specific need to do so.

Perform these steps to extinguish a vehicle battery fire.

- 1. Wear proper personal protective equipment (PPE) with full SCBA when approaching any vehicle fire.
- 2. Use a sustained, high-volume water application. A minimum of 7,500-11,500 liters (2,000-3,000 gallons) will be needed. Consider an established water supply, a tender or additional units to shuttle water to the pumping engine.
- 3. If water is not readily available, use defensive firefighting tactics to prevent the fire from spreading until a clear need to extinguish the fire is identified and water is available. If necessary, use CO₂, dry chemicals or other fire-extinguishing agents to suppress the fire, for example, to extricate passengers, until water is available.
- 4. Use a thermal imaging camera (TIC) or infrared (IR) to monitor the battery temperature during the cooling process. Look for ambient temperatures at or below 100°C (212°F) to indicate the battery pack is cooling down. Temperatures above this limit indicate a potential for continued battery cell thermal events.
- 5. Continue evaluating the battery structure and apply water directly to any exposed areas. Submerge loose battery cells or modules in water for at least 24 hours.

IMPORTANT

- Only firefighters should extinguish a high-voltage battery fire.
- Use a hand-held extinguisher only to protect occupants as they exit the vehicle or for small fires that don't involve the high-voltage battery.
- · Foam may suppress, but will not extinguish, a battery fire.

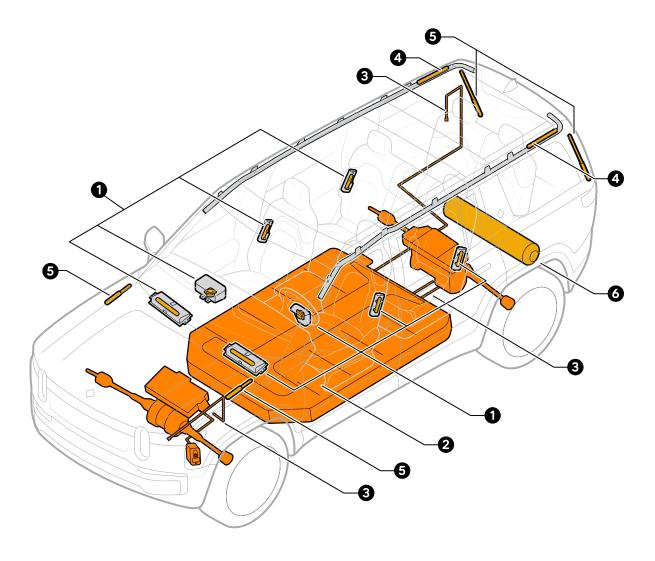


Sudden Rupture Risks



DANGER

Be aware of airbags, stored gas inflation cylinders, hydraulic shock absorbers and the on-board air compressor tank.





Item	Description
1	Airbags
2	High-voltage battery
3	High-voltage cable
4	Gas inflation cylinders
5	Hydraulic shock absorbers
6	Air compression tank

NOTE

It's safe to use water to put out the fire on a Rivian vehicle because of the properties of current flow and voltage. Undamaged high-voltage electrical systems are normally isolated from the chassis.



DANGER

- Do not cut the battery. This can cause injury, electrocution or death.
- The lithium-ion battery packs are high-voltage (up to 450 V).
 - An undetected fire can remain inside the high-voltage battery.

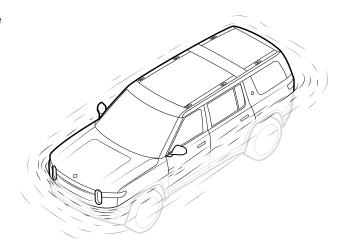


Remove a Submerged Vehicle from Water

Rivian recommends that you wear personal protective equipment (PPE) when removing the vehicle from water.

Always remove a submerged vehicle from water before you attempt to tow or transport it.

For safety, don't try to recover a submerged vehicle from the water by yourself. Get help.



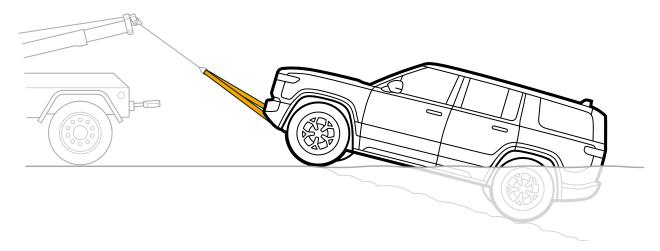


DANGER

- If the battery is damaged, water may have entered the battery case. Use extreme caution and wear personal protective equipment (PPE) if you enter the water or attempt to tow the vehicle.
- Never attempt to charge a high-voltage battery that has been submerged, is letting off gas or exhibits signs of external damage.



Recover a Submerged Vehicle



You may see small bubbles in the water near the vehicle (microbubbling). This isn't a sign that the water is electrified or will cause a shock.



DANGER

When handling an emergency, always approach an electric vehicle from the side. Electric vehicles can run silently and a damaged high-voltage battery can remain energized, allowing the vehicle to move unexpectedly.



Transport the Vehicle

Prepare the Vehicle for Towing



WARNING

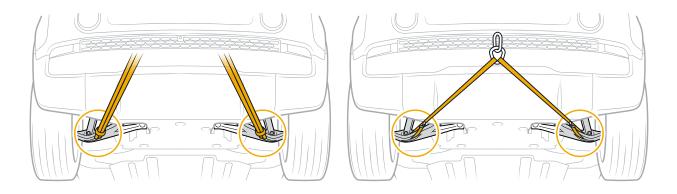
- Only transport the vehicle on a flatbed tow truck.
- Fire Hazard. Towing Rivian vehicles with any wheels on the ground can lead to significant damage and overheating. Extreme overheating can cause a fire.
- Damage caused by improper towing is not covered under warranty.
- 1. Ensure the front wheels face forward and are parallel with the vehicle.
- 2. Secure the steering wheel with a holder or strap to keep the wheels straight.



CAUTION

To prevent damage, don't use j-hooks to connect to any suspension components.

3. Connect the front of the vehicle to the tow truck winch with 1.8 m (6 ft) endless loops or a nylon bridle through the lower control arms.



NOTE

If you can't tow from the front of the vehicle, you can connect to the trailer hitch to tow from the rear.

- 4. Press and hold the brake pedal.
- 5. On the centre display, choose **Settings > Vehicle > Service**. Then turn on **Park brake release**.

NOTE

Park brake release turns off after 15 minutes. You can also turn it off by putting the vehicle in **Park** or turning off **Park brake release** in the centre display.



Transport the Vehicle

6. Release the brake pedal and confirm release of the electronic park brake.

You can now load the vehicle onto the tow truck.

NOTE

If you can't release the electronic park brake, <u>lift the rear wheels</u> to load the vehicle onto the tow truck.



Lift the Rear Wheels

If the battery is dead or you can't release the electronic park brake, lift the rear wheels to load the vehicle onto a tow truck.



DANGER

Secure the vehicle and connect it to the tow truck before you lift the rear wheels. The vehicle can roll when you lift the rear wheels.



CAUTION

Only lift the rear wheels to load the vehicle onto the tow truck. Don't tow the vehicle behind another vehicle or with two wheels on the ground.

- 1. Chock the front wheels to secure the vehicle.
- 2. Connect the vehicle to the tow truck using an endless loop through the front control arms or rear trailer hitch.
- 3. Lift the rear wheels using skates, a dolly or a tow truck wheel lift.





4. With the rear wheels off the ground, position the vehicle to be loaded onto the tow truck bed.

You can now load the vehicle onto the tow truck.

NOTE

If using skates, use the skates to pull the vehicle all the way up the tow truck ramp.



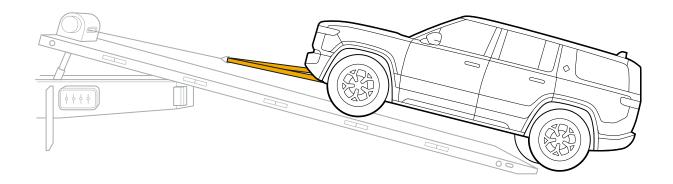
Load the Vehicle onto the Tow Truck

After you've connected the vehicle, you can load the vehicle onto a flatbed tow truck as follows:

- 1. Ensure the Park brake release is turned on or the rear wheels are lifted. See Prepare the Vehicle for Towing.
- 2. Remove the wheel chocks if needed.
- 3. Use the tow truck winch to pull the vehicle onto the tow truck bed.
- 4. Pull at 8 km/h (5 mi/h) or less to prevent damage to the powertrain.

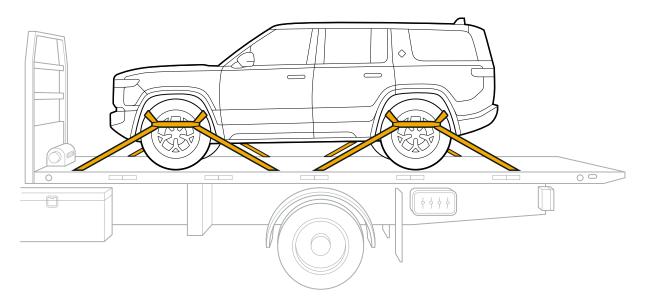
NOTE

If you pull too fast, the vehicle stops and shifts to Park.





5. Tie down the vehicle using eight-point retention straps with two points of contact per corner.





CAUTION

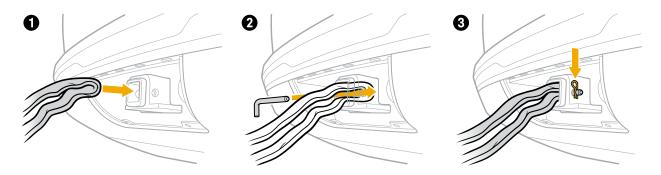
To prevent damage, ensure the straps don't contact the brake lines or suspension components behind the tire.

- 6. Put the vehicle into Park.
- 7. Go to **Drive Modes** in the centre display. Choose **All-Purpose** , and then choose **Low** under **Ride Height**.
- 8. If you're transporting the vehicle over 80 km (50 mi), turn on Vehicle Shipping Mode to preserve battery charge.

Connect to the Trailer Hitch

Connect to the trailer hitch when you can't tow from the front of the vehicle.

- 1. Ensure the front wheels face forward and are parallel with the vehicle.
- 2. Secure the steering wheel with a holder or strap to keep the wheels straight.
- 3. Remove the trailer hitch cover.
 - a. Use a flathead screwdriver to loosen the two captive screws. Turn a quarter turn counterclockwise.
 - b. Grip the cover and pull straight down.
- 4. Insert a nylon bridle or short endless loops through the trailer hitch (1).



- 5. Insert the tow pin through the hitch to connect the bridle or loops (2) and then install the tow pin retaining clip (3).
- 6. Press and hold the brake pedal.
- 7. On the centre display, choose **Settings ©** > **Vehicle** > **Service**. Then turn on **Park brake release**.

NOTE

Park brake release turns off after 15 minutes. You can also turn it off by putting the vehicle in **Park** or turning off **Park brake release** in the centre display.

8. Release the brake pedal and confirm release of the electronic park brake.

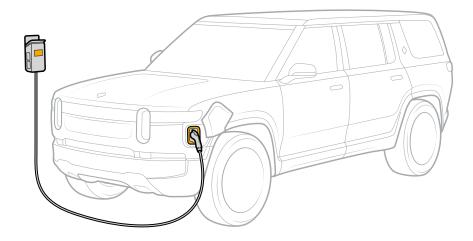
You can now load the vehicle onto the tow truck.

NOTE

If you can't release the electronic park brake, <u>lift the rear wheels</u> to load the vehicle onto the tow truck.



Stop Charging in Case of an Emergency



If a vehicle is damaged or on fire while connected to a charger during an emergency, the safest thing is to turn off the electricity. Shut down the Emergency Power Off for the charger and then inspect the situation. If a vehicle is damaged and at risk of a fire, you can attempt to disconnect the charging cable from the vehicle.

IMPORTANT

A Rivian vehicle includes software that automatically senses battery issues and shuts off charging. However, if the fire is not battery related or the vehicle continues charging, try the charge plug disconnection procedures below.

Shut Down the Emergency Power Off

Use the Emergency Power Off to shut down power to the charger. It's normally in the line of sight from the charger.





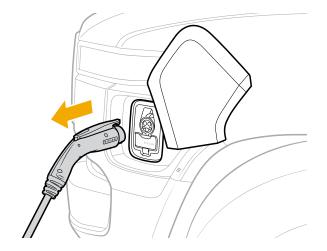
Remove the Charge Plug with a Key

The following serve as keys:

- Key fob (connected via Bluetooth)
- Rivian phone app (connected via Bluetooth)
- Card or wristband (touch the unlock sensor on the vehicle)

Follow these steps to remove the charge plug:

- 1. Unlock the vehicle.
- 2. Remove the charge plug from the socket and place it on the charger.



Remove the Charge Plug Without the Key

If you don't have the key but can access the hood, use the emergency charger plug release cable.

Remove the Charge Plug Without the Key or Access to the Hood

If you don't have access to the hood, use the emergency hood release.



DANGER

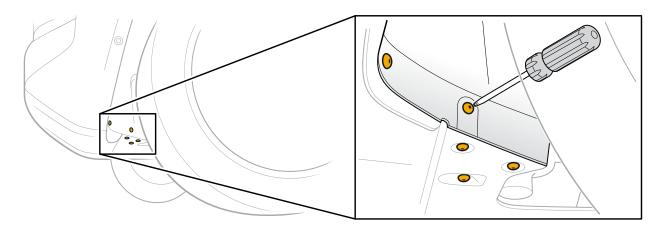
Do not cut the charging cable. You never want to interrupt a high-voltage current flow. Doing this could cause injury, electrocution or death.



Manually Open the Hood

Follow these steps if the hood won't open normally:

1. Use a Torx (star) screwdriver with T20 and T25 bits to remove the screws from the inboard side of the left front wheel liner.

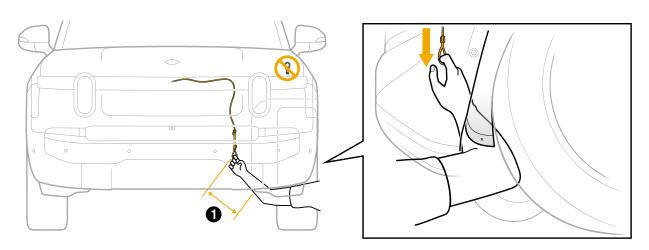


2. Lower the front skid plate to access the hood release cable.

NOTE

Remove extra screws as needed to improve access to the area.

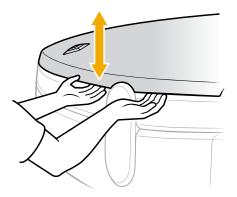
3. Reach in and up to locate the hood release cable. Pull the cable to release the hood latch.



Item	Reach Distance (Approximate)
1	28 cm (11 in)



4. If the latch doesn't release, have a second person gently lift up and push down on the hood while you pull on the cable.



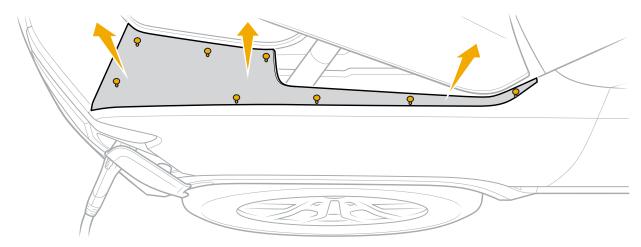
5. Replace the screws after the hood opens.

Manually Release the Charge Plug

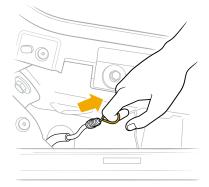
If the charge plug won't release from the charge port, you can manually release it.

NOTES

- Always stop a charge session before you unplug from a DC fast charger. Go to **Energy** in the centre display, and then choose **Stop Charging**.
- Ensure the vehicle is unlocked before you unplug from an AC charger.
- 1. Open the vehicle hood.
- 2. Remove the trim panel from the driver side of the vehicle. Pull up gently to release the clips.



- 3. Gently pull the cable to release the charge plug.
- 4. Remove the charge plug from the charge port.
- 5. Replace the trim panel and secure the clips.
- 6. Close the hood.





Store the Vehicle

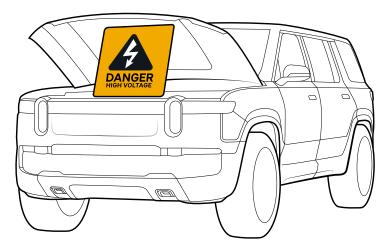
Be careful when storing a damaged Rivian electric vehicle after an accident or fire. Be sure to <u>secure it when</u> you park it.



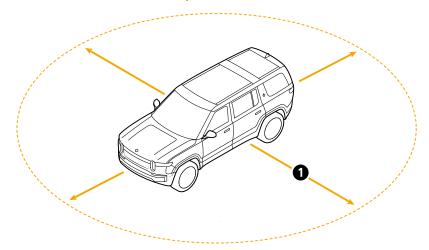
CAUTION

Don't use a forklift to move the vehicle. This could puncture the high-voltage battery or other components, and the vehicle weight could exceed the forklift's capacity.

1. Use signage or some other visual indicator to identify it as an electric vehicle.



2. Store the vehicle outside at least 15 m (50 ft) away from other vehicles, structures or combustible material.



Item	Description
1	Store 15 m (50 ft) away.

NOTE

If this spacing can't be achieved, place the vehicle where it can quickly be towed or winched away. Consider access for fire personnel, fire apparatus and a water supply, and leave space for fire personnel to periodically and quickly reassess with thermal imaging.

- 3. Notify others that the vehicle is on the property and ask them not to interact with it unless authorized.
- 4. Monitor a vehicle with a <u>damaged high-voltage battery</u> for signs of gas emissions, fire or any potential issues from a leak. Leave the vehicle in the containment area for at least 24 hours.

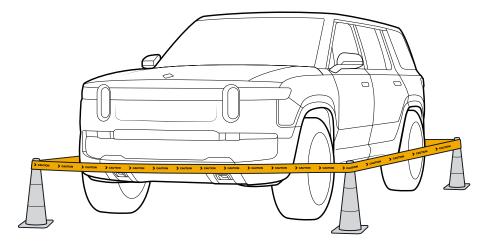


WARNING

In some cases, lithium-ion batteries can self-ignite days after a major collision.



5. Rivian recommends creating a tape barrier around the vehicle in an isolated area of the lot.





DANGER

Energy that remains in a battery is especially concerning if the high-voltage components or battery are damaged. Exposed wiring and parts can also create an electrical safety hazard.

