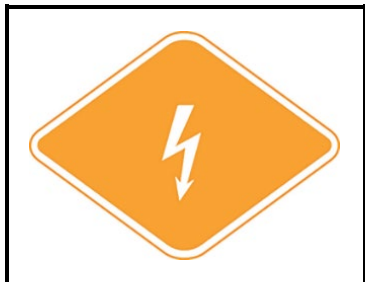
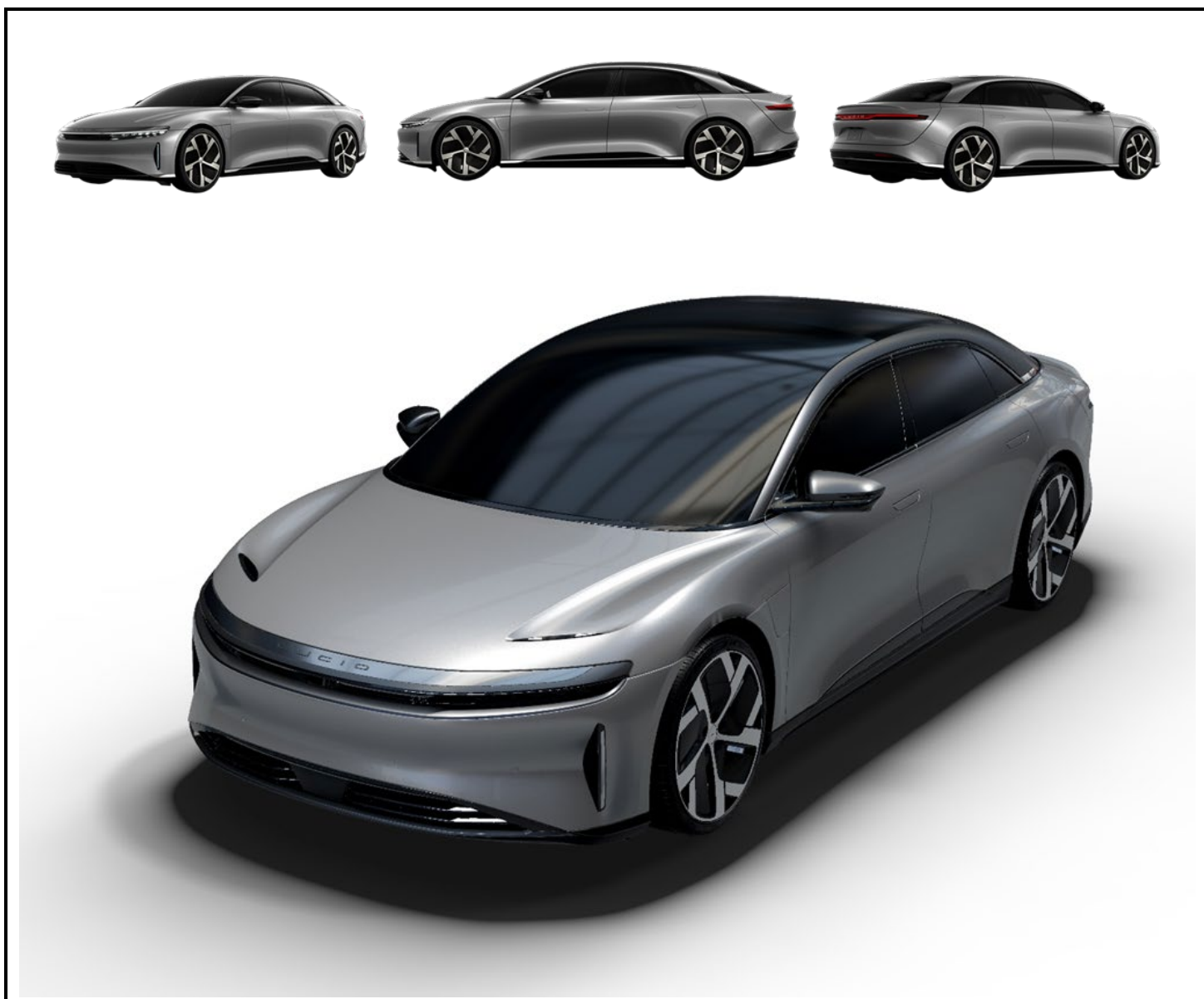
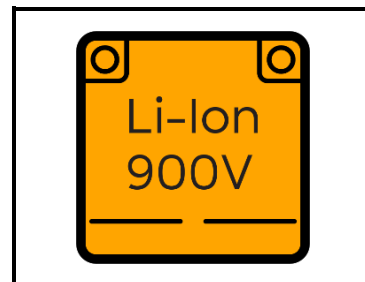


INFORMATION FOR FIRST AND SECOND RESPONDERS**EMERGENCY RESPONSE GUIDE**

Lucid Air
Four Door Sedan
2021+
Electric Vehicle



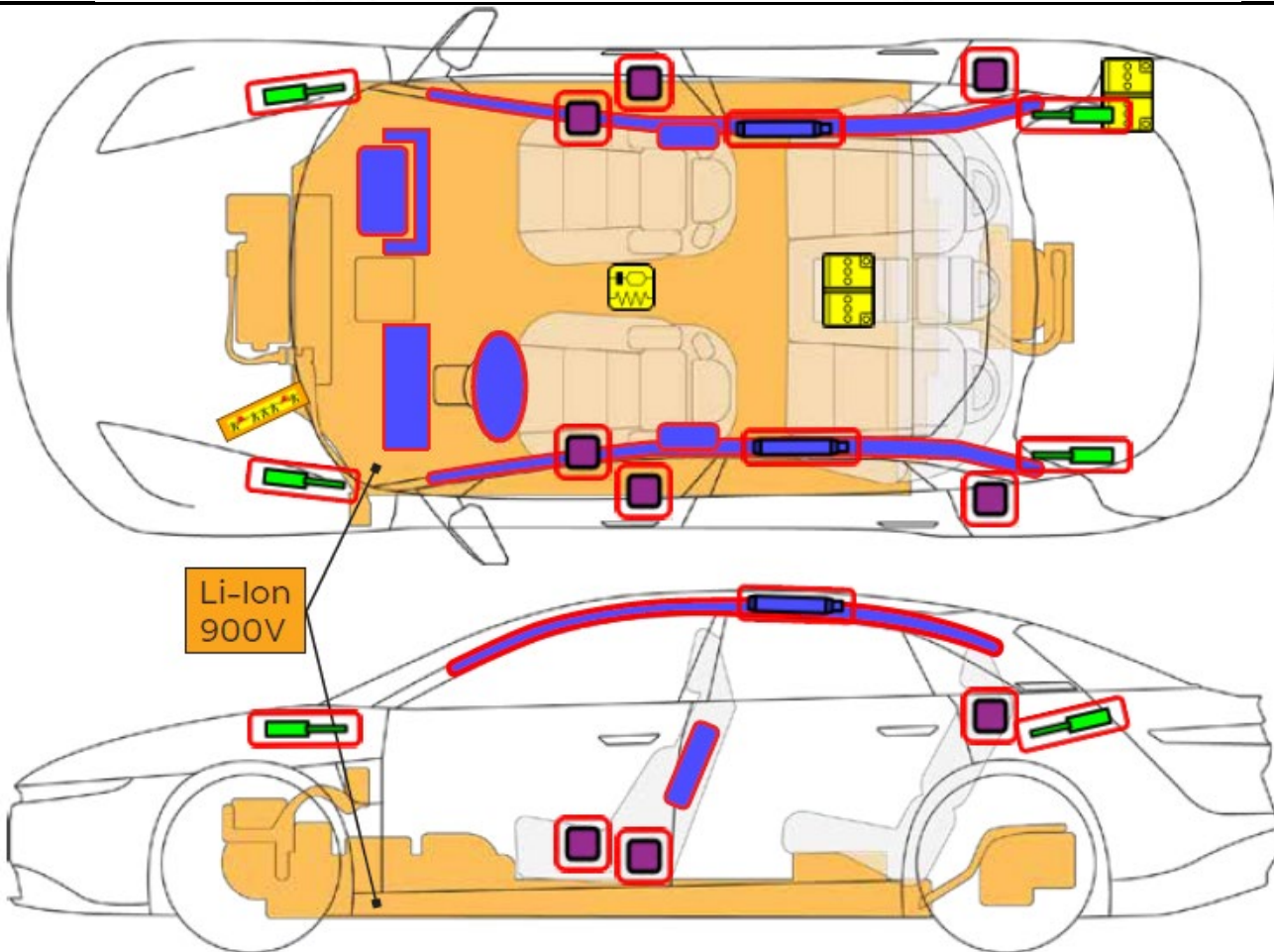
Contents

0. Rescue sheet	Page 2
1. Identification / recognition	Page 3
2. Immobilization / stabilization / lifting	Page 5
3. Disable direct hazards / safety regulations	Page 7
4. Access to the occupants	Page 13
5. Stored energy / liquids / gases / solids	Page 22
6. In case of fire	Page 27
7. In case of submersion	Page 33
8. Towing / transportation / storage	Page 34
9. Important additional information	Page 45
10. Explanation of pictograms used	Page 46

LUCID

LUCID AIR SEDAN

2021 - Present



	Airbag		Stored gas inflator		Seatbelt pretensioner		SRS control unit		Pedestrian protection active system
	Automatic rollover protection system		Gas strut / pre-loaded spring		High strength zone		Zone requiring special attention		High voltage component
	Battery low voltage		Ultra capacitor, low voltage		Fuel tank		Gas tank		Safety valve
	High-voltage battery pack		High-voltage power cable / component		High-voltage disconnect		Fuse box disabling high-voltage system		Ultra capacitor, high-voltage
	Cable cut								

LUCID

Document
50E-ANA21ERG

Version
03

Date
11/4/2022

Page
2 of 41

1. Identification / recognition



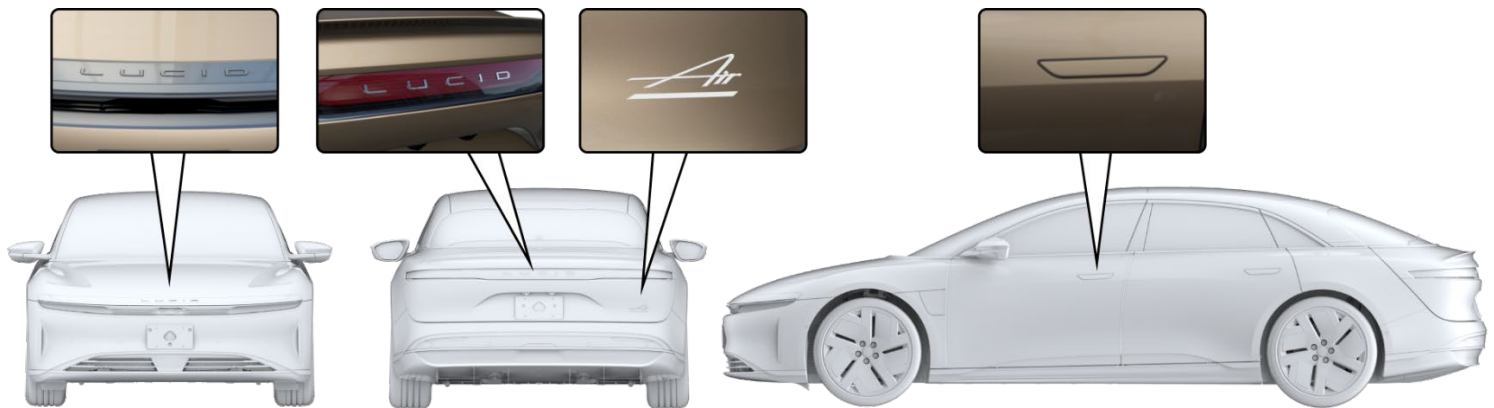
WARNING Lack of engine sounds does not mean the vehicle is off. Silent movement or instant restart capabilities exist until vehicle is fully shut down. Wear appropriate PPE.

Door Handles, Branding, and Badging

Lucid Air can be identified by its badges.

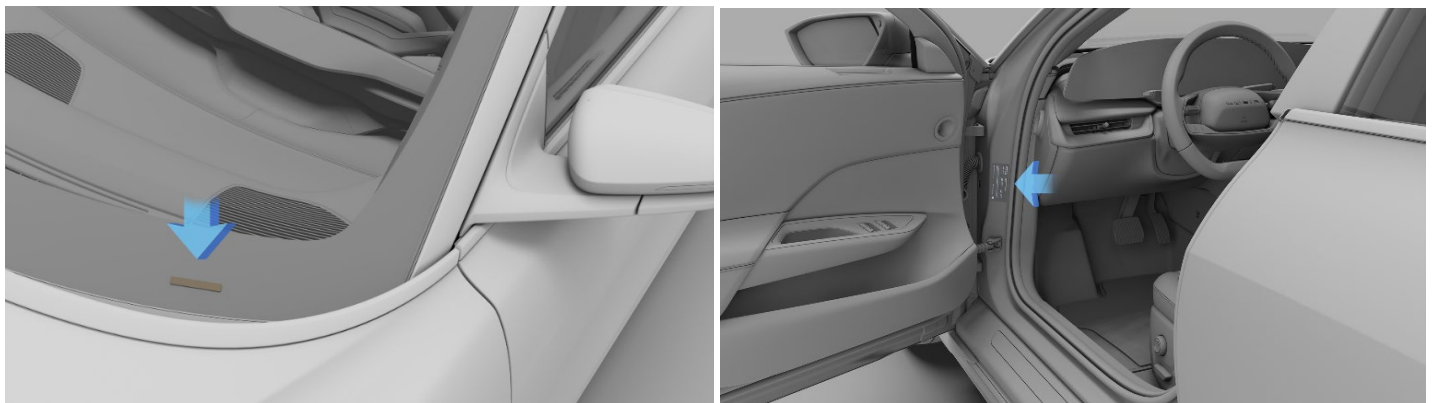
NOTE: Lucid Air vehicles are a dual motor configuration, with one motor on each set of drive wheels.

NOTE: Lucid Motors vehicles are fully electric vehicles.



Vehicle Identification Number (VIN)

Lucid Air can be identified by its VIN. The stamped plate may be located by looking through the driver's side of the windshield or on the left-hand A-pillar with the door open. Lucid Air is identified with an "A" in the 4th alphanumeric position.



LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	3 of 41

Touchscreen

Lucid Air can also be identified by a retractable touch screen located where the dash meets the center console. If the display is in the stowed position, a storage cubby will be visible in its place. Lucid Air also has a wide screen instrument cluster display which is divided into three sections.



If the vehicle airbags have deployed, touchscreens may not be accessible due to interruption of low voltage power. External low voltage power should not be applied after an accident due to the possibility of a low voltage electrical fire. If low-voltage power is present, the touch screen may be lowered from the stowed position by touching the arrow icon on the center lower edge of the display.

Rear Touchscreen

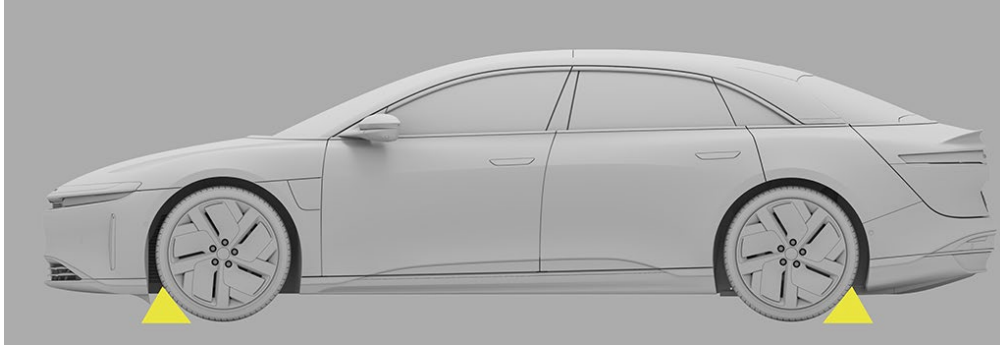
Lucid Air also has a rear touch screen on the aft portion of the center console facing the rear seats.



Immobilization

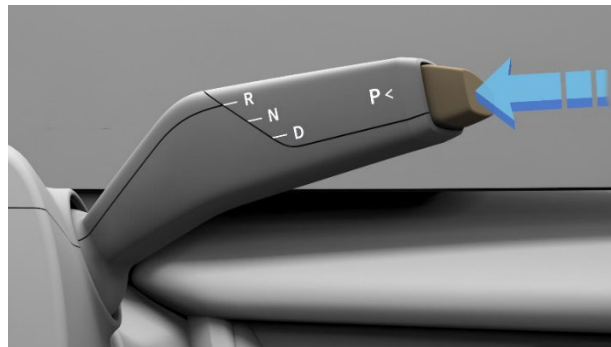
Chock Wheels

Lucid Air moves silently, so never assume it is powered off. Lucid Air could potentially be free to roll if the parking brake is not engaged. Always chock the wheels.



Putting the Vehicle in Park

Lucid Air moves silently, so never assume it is powered off. Pressing the accelerator pedal while the Lucid Air is in Drive or Reverse may result in extremely rapid acceleration. Press the button located on the end of the Drive mode selector stalk, which is located on the right side of the steering column. Once in Park, a “P” will be indicated along the lower edge of the center gauge cluster, and the electronic parking brake should engage to immobilize the rear wheels.





STABILIZATION / LIFTING POINTS



WARNING Be careful to not damage the high-voltage battery pack while stabilizing the vehicle.

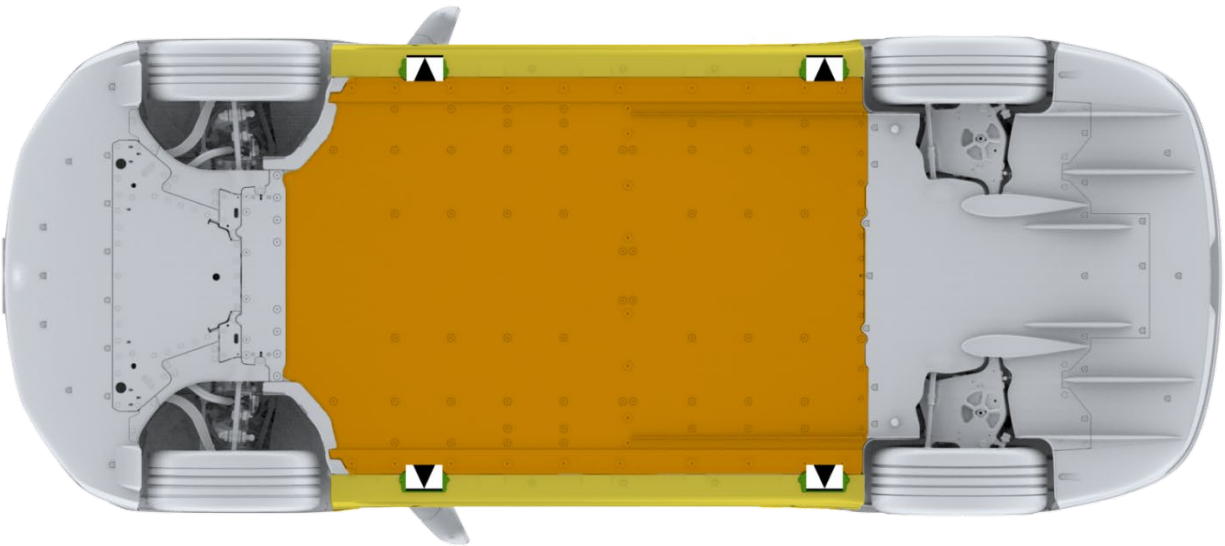


WARNING The vehicle should only be lifted or manipulated if the first responders are trained and equipped at the technician level per the applicable country's national fire training requirements and are familiar with the vehicle's lifting points. Use caution to ensure you avoid contact with the high-voltage battery or other high-voltage components while lifting or manipulating the vehicle.



WARNING Do not use the high-voltage battery pack to lift or stabilize the vehicle.

The high-voltage battery is located under the floor of the car. When lifting or stabilizing the Lucid Air, use only the designated lift areas, shown below



Approved lifting points



Safe stabilization points for a Lucid Air on it's side.



High-Voltage Battery pack- Do not use for lifting or stabilization

3. Disable direct hazards / safety regulations

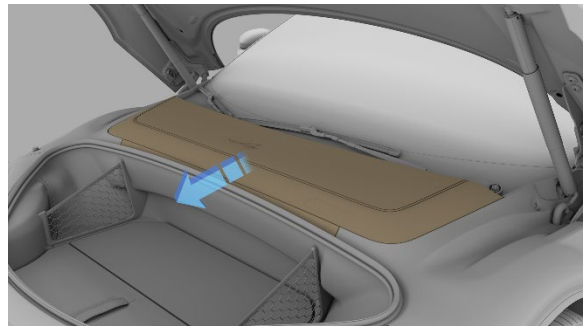
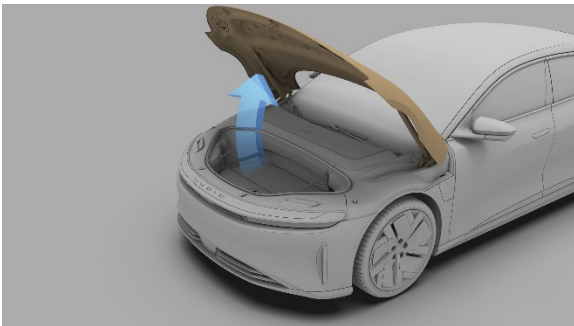
Access

The hood may be opened via:

- Touch Screen
- Key Fob
- Mobile App
- Manual Emergency Release cables

Instructions for the use of these methods may be found in **Section 4**.

1. Open the hood. (See Chapter 4: Access to the Occupants).
2. Remove the access panel by pulling it upwards to release the clips that hold it in place.



Primary Disable Method

To isolate the high-voltage system, unplug the first responder loop.

Alternate/Emergency method: In an emergency scenario where time and/or access do not allow for plug disconnection, complete one cut on each side of the first responder loop label



WARNING Not every High-Voltage component is labeled. Always wear appropriate PPE. Always double cut the First Responder Loop. Do not attempt to open the High-Voltage Battery.



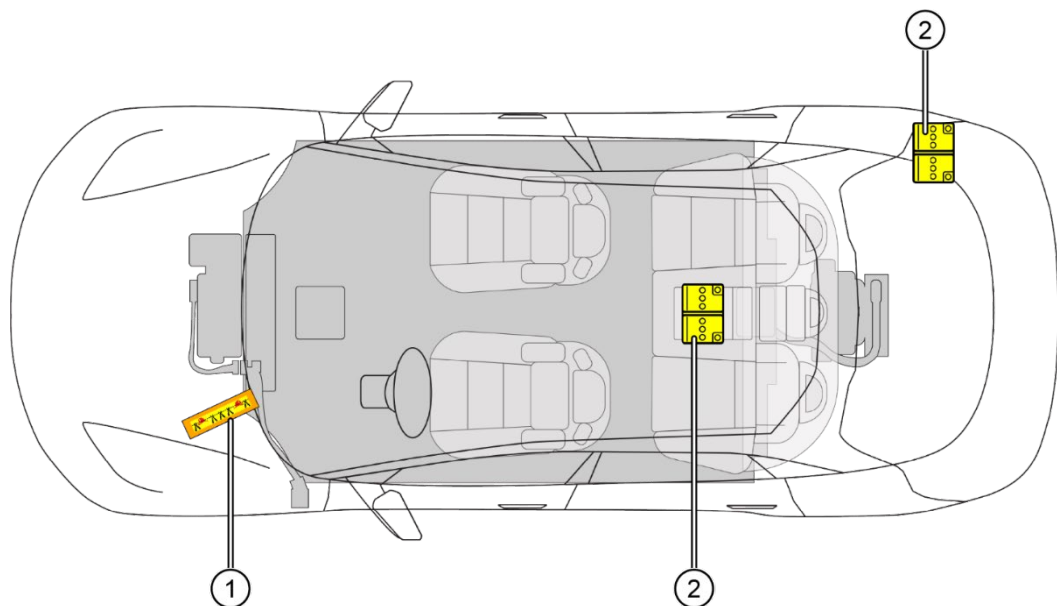
LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	7 of 41



First Responder Loop

Unplugging/Cutting the first responder loop removes low-voltage power going to the high-voltage contactors inside of the high-voltage battery pack. Disconnecting the first responder loop does not disable the low-voltage battery system. Lucid Air is equipped with two low-voltage batteries for redundancy. One is located directly under the rear seat cushion and the other is inside the trunk under the right side access panel. Both low-voltage battery negative cables (2) should be disconnected or cut. If time and/or access do not allow for removal, then cut both negative cables. Both must be disconnected or cut in order to disable the low-voltage battery system, which powers the Supplemental Restraint System (SRS) control unit.

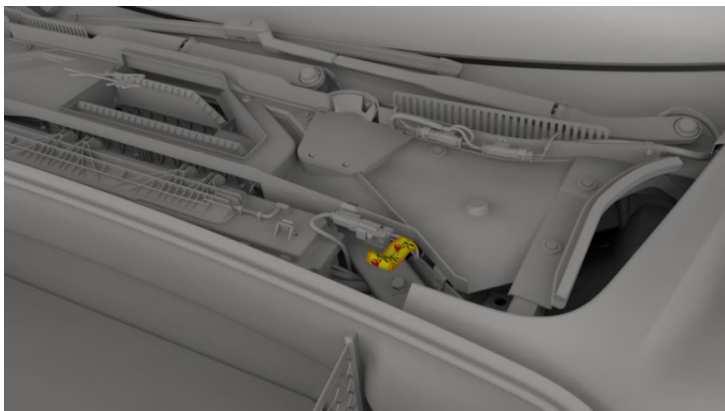
NOTE: Once the low-voltage battery negative cables have been cut, power accessories will no longer operate. This includes items, such as exterior door handles, windows, seats, and the steering column. It will also not be possible to disable the Electronic Parking Brake System.



1. First Responder Cut Loop

2. Low Voltage Battery (qty 2)

The first responder cut loop is located under the hood on the left-hand side near the suspension strut tower and is concealed by the cowl cover. To remove the cover, grasp the rear edge and pull up.



Continued on next page

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	8 of 41

Even if the first responder loop has been cut, always treat the high-voltage pack and the high-voltage components as if they are live. The pack will still have stored energy within the cells, and it is not known if other high-voltage components have been damaged. Treat every battery pack and orange cable as if there is high voltage in them. Never cut an orange high-voltage cable or cut into the battery pack.

There is no way to instantaneously discharge the energy inside of the battery pack when a vehicle is in an accident. There is stored energy in the high-voltage battery cells. Caution must be used to not damage the battery pack, in the case of vehicle extrication operations.

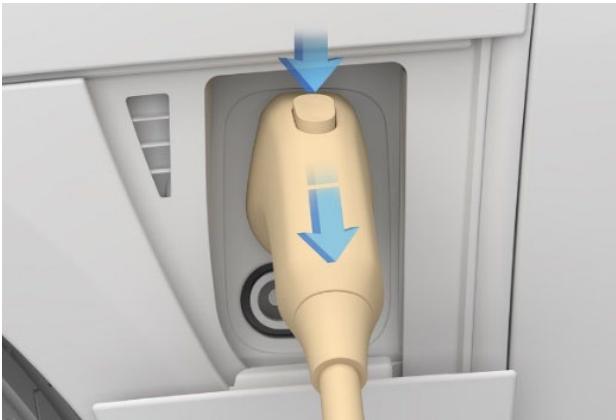
Vehicle Charging

In the case of an emergency incident while charging that involves collision, electrical failure, or fire, additional steps should be taken to isolate the charging station. If the charging station is equipped with an e-stop, it should be applied. If an e-stop is not present or accessible, property management should be accessed to locate the main service disconnect and lockout/tagout breaker. After it has been located, immediately disconnect the EVSE handle at the vehicle by pressing the release button on the charging cable handle. If you are unable to disconnect via the handle button, the manual release can be actuated by opening the hood and pulling the manual release lever while unplugging the cable.



WARNING Do not cut the high-voltage charging cable. If the Electric Vehicle Supply Equipment (EVSE) is unable to be disconnected from the vehicle, ensure that the EVSE is de-energized before proceeding. Refer to the EVSE manufacturer’s instructions or Local Power Utility Agency. Cutting an energized cable may lead to serious injury or death.

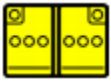




Disconnecting EVSE cable via handle button

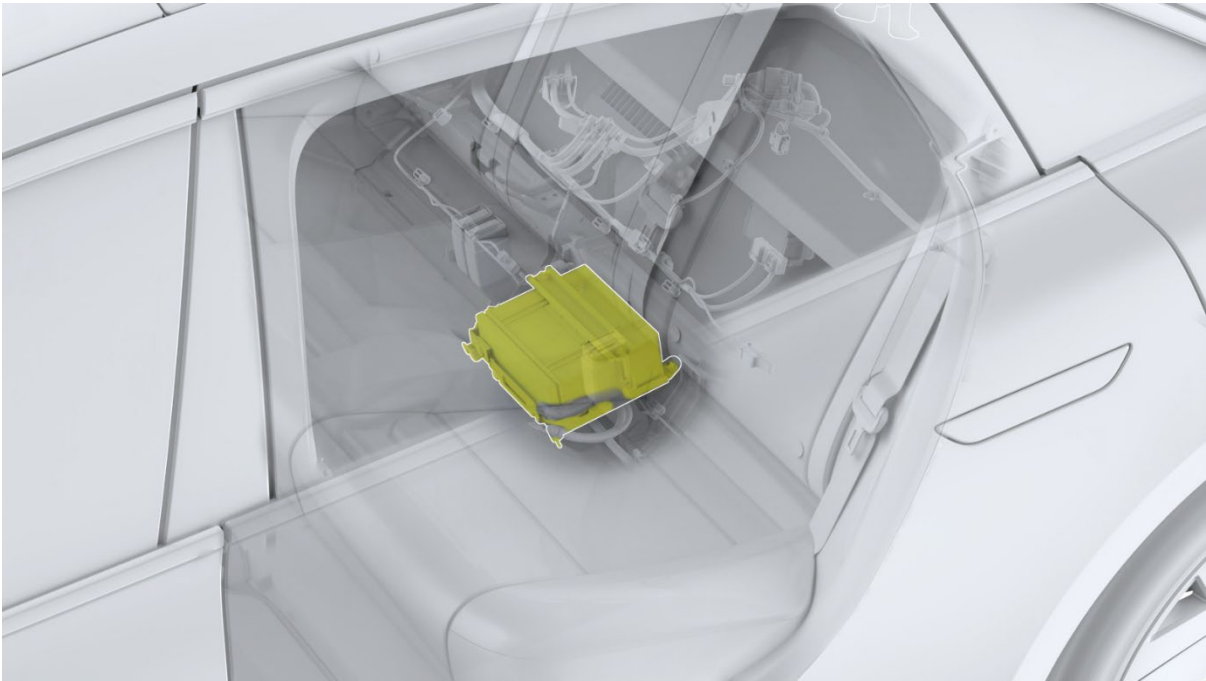


Manual release lever operation



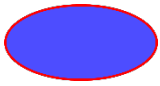
Battery Low-Voltage

The underseat mounted low-voltage battery may be accessed by opening the rear passenger compartment door, (see **Chapter 4: Access to the Occupants**), and pulling up the rear seat bench cushion along the front edge until the retainer clips (Qty.2) release.



The trunk-mounted low-voltage battery may be accessed by opening the trunk, (see **Chapter 4: Access to the Occupants**), and removing the right-hand side floor access panel.





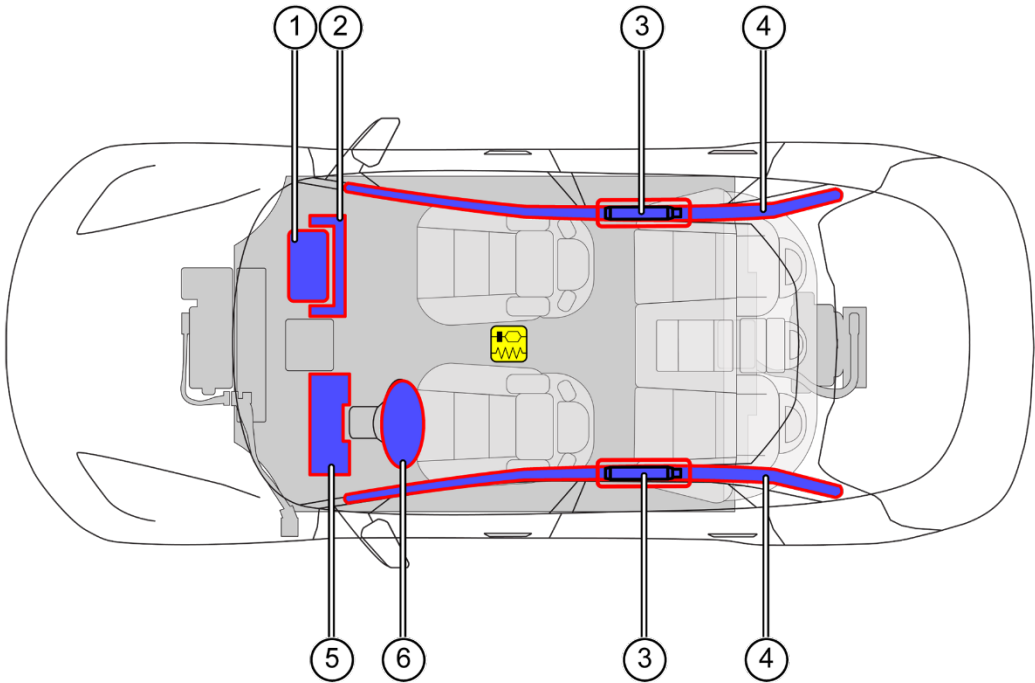
Airbags



WARNING The SRS unit has an internal energy reserve, which enables it to remain powered for up to five minutes after Low-Voltage battery power has been disconnected. The SRS unit will remain powered from the vehicle after it deploys any airbag or pre-tensioner. Do not touch the SRS unit while it is powered.

Airbags are located in the approximate areas shown. Airbag warning information is printed on the sun visors.

Lucid Air is designed to deactivate high voltage in all components and cables outside of the high-voltage battery when an airbag is deployed. Care must be taken as to not cut any orange high-voltage cables or try to gain access into the battery pack. Even though the high-voltage system has shut down due to the airbags being deployed, it must always be assumed that there may be high voltage present in the high-voltage cables and components. The battery cells within the battery pack will have stored energy and should not be compromised with rescue tools.



The First Responder Loop and Low-Voltage Battery negative cables (2) should be cut in order to open the low voltage circuit that provides power to the airbags. See the First Responder Loop section for more details.

- 1. Passenger front airbag
- 2. Passenger knee airbag
- 3. Side airbags
- 4. Curtain airbags
- 5. Driver's knee airbag
- 6. Driver's front airbag



WARNING Never cut or crush inflation cylinders. Cutting or compressing cylinders can cause catastrophic failure and lead to serious injury or death.

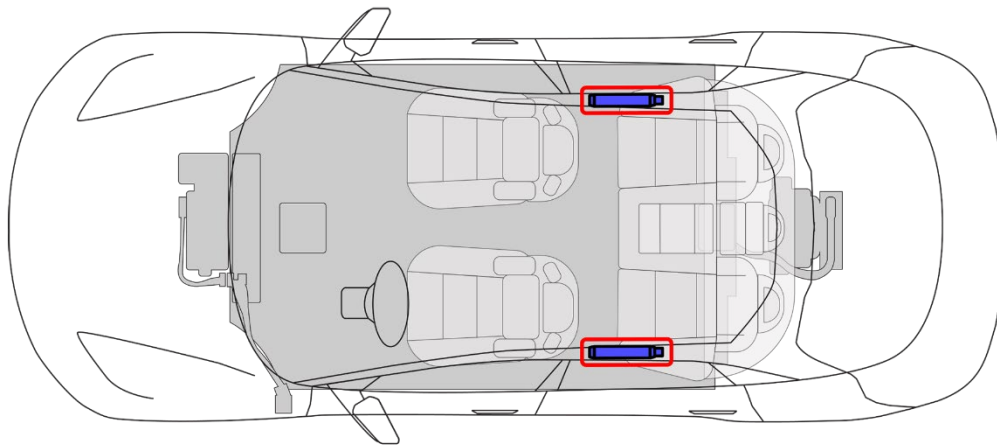


WARNING The SRS control unit has a backup power reserve with a discharge time of approximately ten seconds. Do not touch the SRS control unit within ten seconds of an airbag or pre-tensioner deployment.



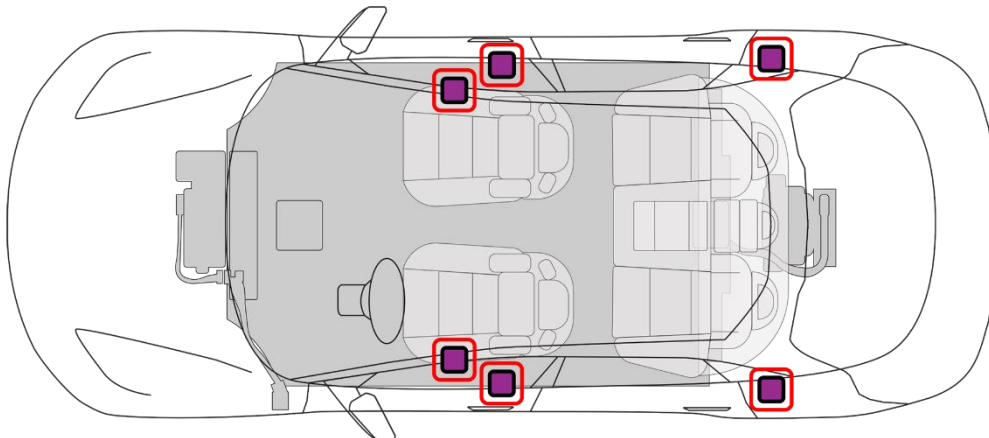
Stored Gas Inflators

The stored gas inflators, outlined in red, are located near the roof approximately mid-way between the B and C pillars.



Seatbelt Pre-Tensioners

The seat belt pre-tensioners (6), outlined in red, are located at the bottom of the B-pillars, the front seat outer base rail, and outboard of the 2nd row seats in the C-pillar.



4. Access to the occupants

Keys

Lucid Air supports three types of devices to be used as keys:

- Key Fob
- NFC Card
- Mobile App

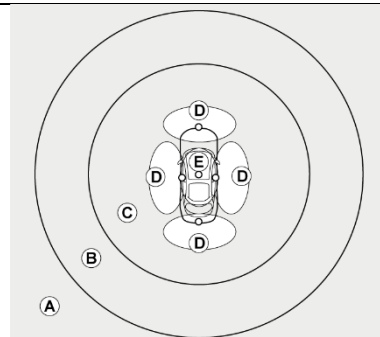
Note: The vehicle's low-voltage system must be functional for the keys to function.

Key Fob



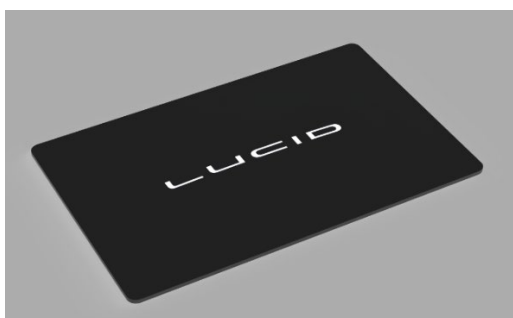
Once within range, the key fob operates as follows:

- Press once to lock all doors, trunk, and front trunk.
- Press twice to unlock all doors, trunk, and front trunk.
- Press and hold the button to open or close the front trunk.



Zone	Range
A	> 82 ft (25 m) = Out of Range
B	82 ft (25 m) – 26 ft (8 m)
C	26 ft (8 m) – 6.5 ft (2m)
D	< 6.5 ft (<2 m)
E	Inside Vehicle

NFC Card

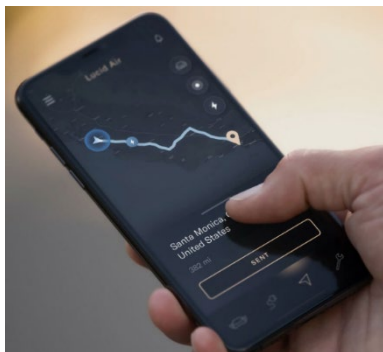


Touch the NFC card to the Left-Hand B-pillar, just above the side camera as indicated in the image.

This will unlock the vehicle, and the door handles will present if there is low-voltage power present.



Mobile App



The mobile app is available to the Owner of the vehicle and their authorized users.

The smart phone must be pre-registered with the vehicle to use. From the main screen on the app touch the associated icons to Unlock, Open hood, or Open trunk as needed.





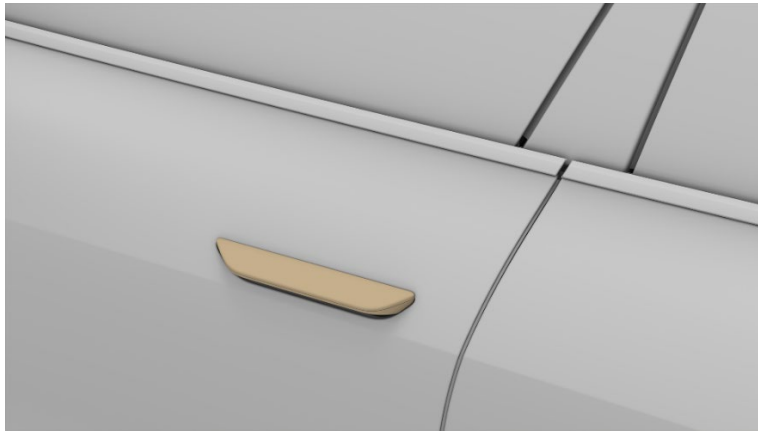
WARNING Electrical and mechanical releases may be compromised after a collision.

NOTE: The seats and steering wheel are electrically powered and may not function after a collision or 12-volt battery disconnection.

NOTE: In the event of a collision, all exterior door handles will present if there is still available power and whether the door units were damaged or not. If the door handles are not operational or rapid extraction is required, it is recommended to break the vehicle windows, (as needed), to allow access to the interior door release handles. In the event of a fire, consider the flow patch of fire when breaking glass. All four doors are equipped with a mechanical release, as part of the interior handle.

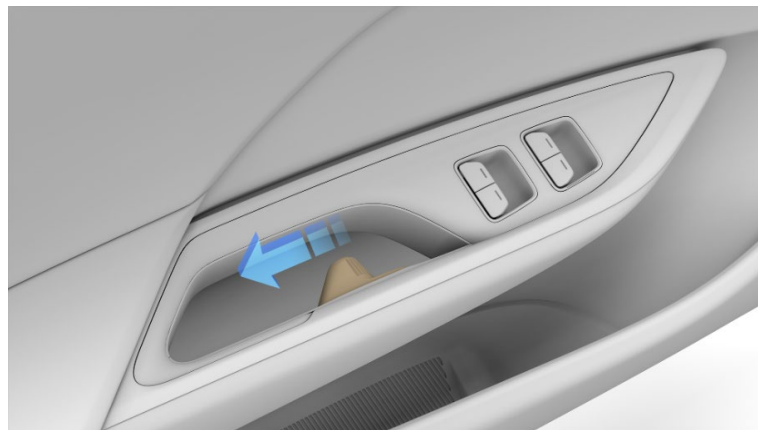
Opening Doors from the Outside with Low-Voltage Power

To open the Lucid Air doors from the outside with low-voltage power enabled, press on the handle. Once a handle extends, pull the handle up to open that door.



Opening Doors from Inside with Low-Voltage Power

To open the Lucid Air door from the inside with low-voltage power enabled, pull the switch on an interior handle to open a door. If a door is locked, unlock it by pulling the handle once, then slide it forward and pull a second time to open the door.



NOTE: It is important to know that in any vehicle collision with damage to the driver or passenger front or rear doors, the mechanical door releases may not operate as designed. It is also important to remember that every vehicle accident is different and may require extrication operations to gain access to the vehicle's cabin.

Opening Doors from the Inside without Power

To open the Lucid Air door from the inside without low voltage power, pull the switch on an interior handle.

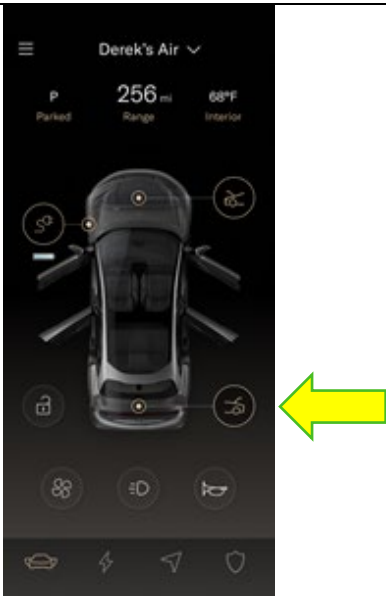
If a door is locked, unlock it by pulling the switch all the way back once. Then, slide forward, and pull a second time to open the door.

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	14 of 41



Opening the Trunk with Low-Voltage Power

Use one of the following methods to open the trunk. The vehicle **must be in park**.

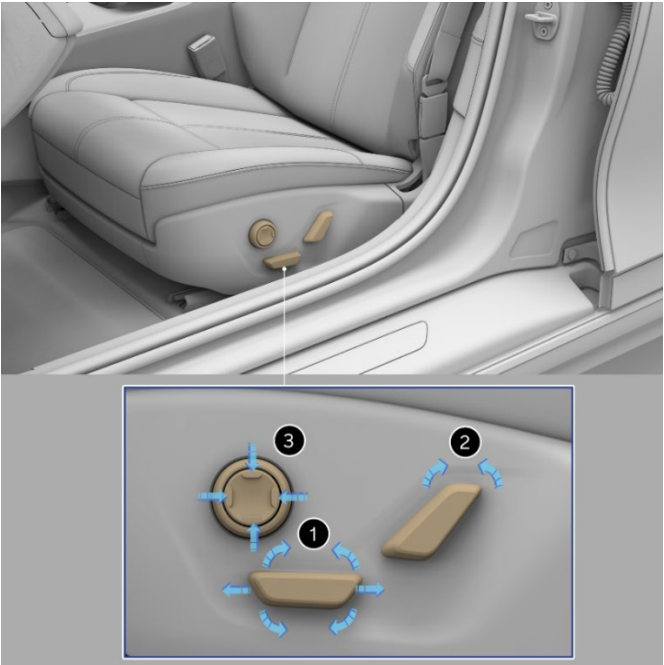
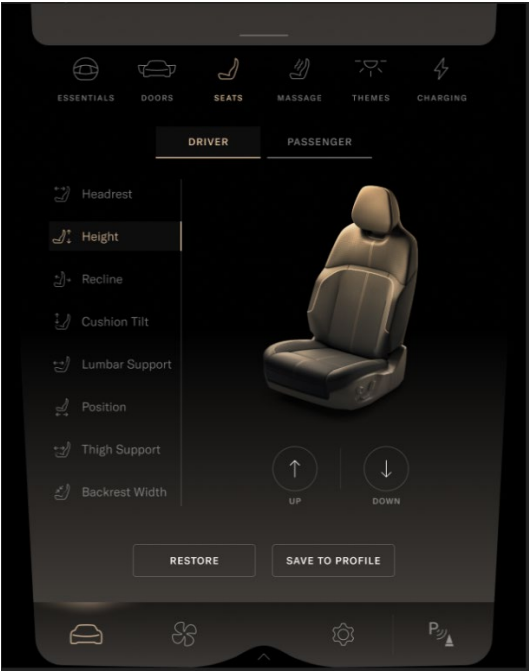
Touch Screen		From the large touch screen at the top of the center console, press the vehicle icon in the lower left corner. Then touch the trunk open icon.
Key Fob		The fob button is located in center of the Lucid logo. Press the fob button twice to unlock the vehicle. Then, open the trunk using the external button as indicated below.
External Button		Press the soft switch located just above the rear license plate. Vehicle must be unlocked.
Mobile App		Using the owner's smartphone with the mobile app, press the trunk open icon as indicated by the yellow arrow in the image.



Moving the Front Seats with Low-Voltage Power

Lucid Air has electrically powered front seats that move with buttons located on the outboard side of the seat base or via the center display under the seats tab.

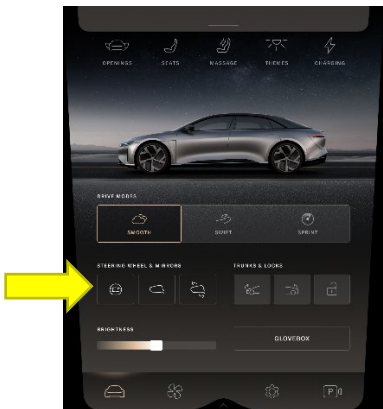
NOTE: If low-voltage power has been disabled, seat movements will not be possible.



Moving the steering column with Low-Voltage Power

Lucid Air has electrically powered steering column which can move up, down, extend or retract.

NOTE: If low-voltage power has been disabled, steering column adjustments will not be possible



Touch the steering wheel icon

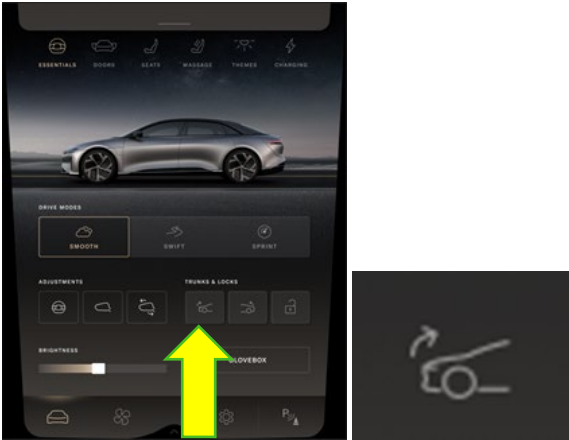


Then touch the screen to move.



Opening the Hood with Low-Voltage Power

Use one of the following methods to open the hood. **The vehicle must be in park.**

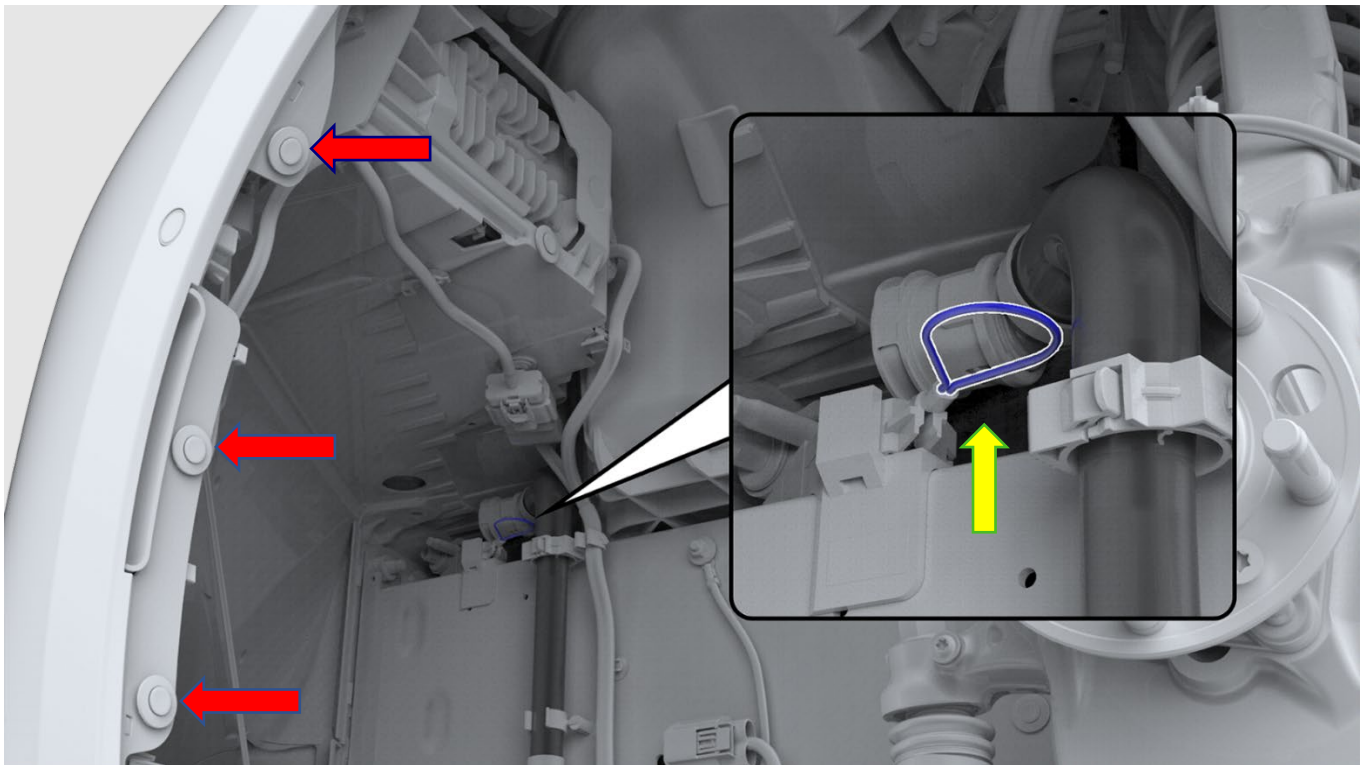
Touch screen		At the large touch screen at the top of the center console, press the vehicle icon in the lower left corner, then touch the “hood open” icon, as indicated by the yellow arrow in the image.
Key fob		At the front of the vehicle, within 6.5 feet of the hood, press and hold the fob button, (located in the center of the fob).
Mobile App		Using the owner's smartphone with the mobile app, press the “trunk open” icon, as indicated by the yellow arrow in the image.



Opening the Hood Without Power

In the event where low-voltage power has been disabled, the hood may be opened via manual release cables.

1. Partially remove the front wheel well liners by releasing pop clips on both sides of the vehicle, (these are indicated by the red arrows), and pull back the wheel well liner, (not pictured).
2. Locate the release cables, which should be found at approximately the 10 o'clock position in relation to the left front wheel and the 2 o'clock position on the right side in relation to the front wheel. These are indicated by the yellow arrow.
3. Pull the cables on each side once, push them in to reset, and pull again. The latches have 2 stages and should be released on the second pull.
4. Once both of the latches have released, you should be able to open the hood. In some cases, a latch may not fully release and will need to be cycled again.



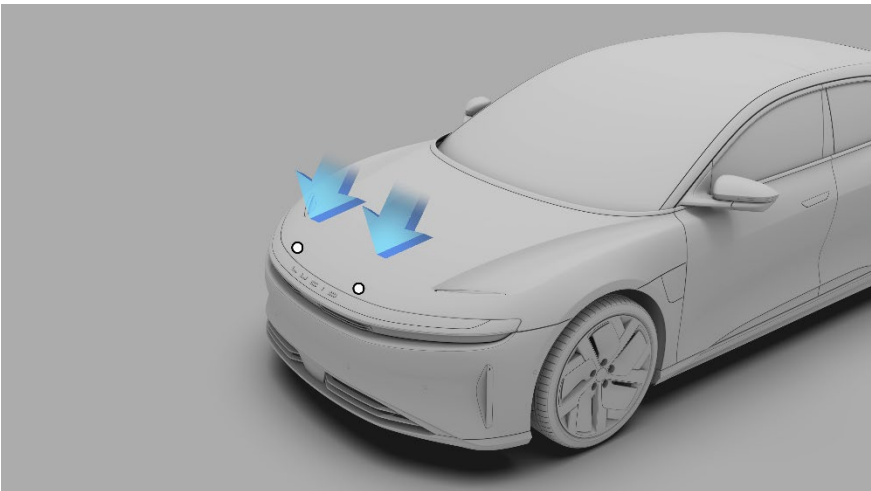
Note: Due to the nature of accidents, damage may prevent the hood latches from releasing.

Note: In some instances, it will be easier to cycle the hood release cables with the help of an assistant.

Note: It may be possible to supply external 12-volt power to enable opening the hood via the touch screen. Refer to **Section 8.**

Towing / Transportation / Storage for information on connecting external power sources.

Note: In the event that the hood cannot be opened electrically and the manual release cables are inaccessible, it may be necessary to cut out the two hood strikers to gain access to the first responder loop. Striker locations are indicated by the white dots in this image.



No-Cut Zones

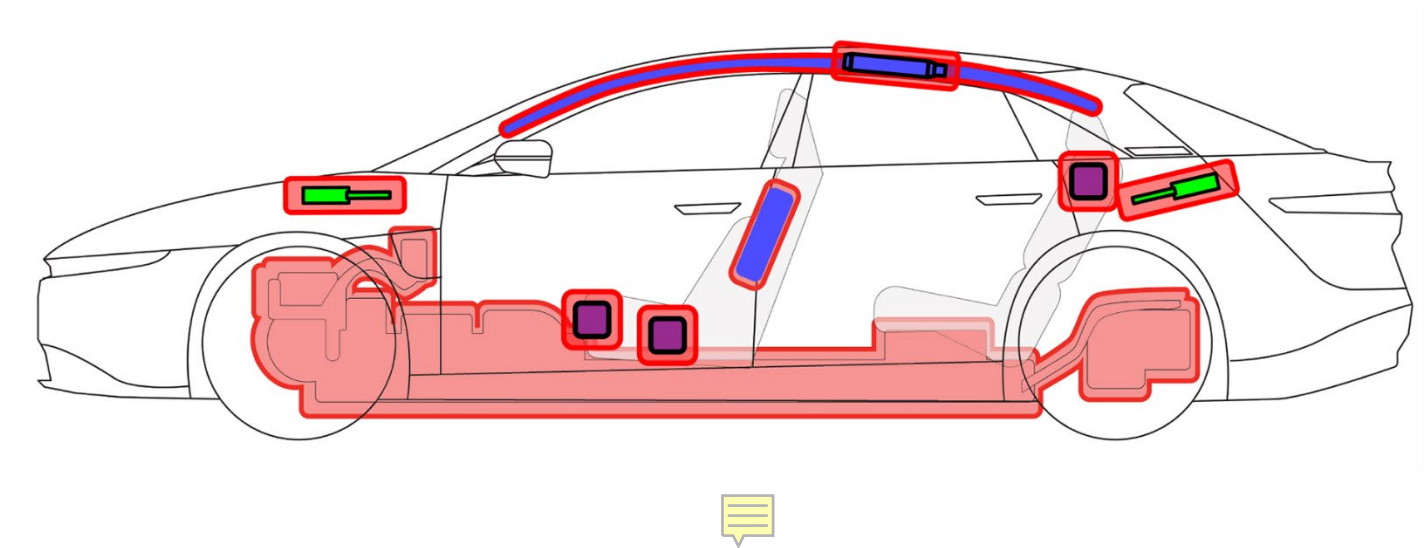
Lucid Air has areas that are defined as “no-cut zones” due to the presence of high voltage, gas struts, SRS components, or other hazards. Never cut or crush in these areas. Doing so could result in serious injury or death. The “no-cut zones” are shown in pink.



WARNING Regardless of the disabling procedure you use, always assume that all high-voltage components are energized. Cutting, crushing, or touching high-voltage components can result in serious injury or death.

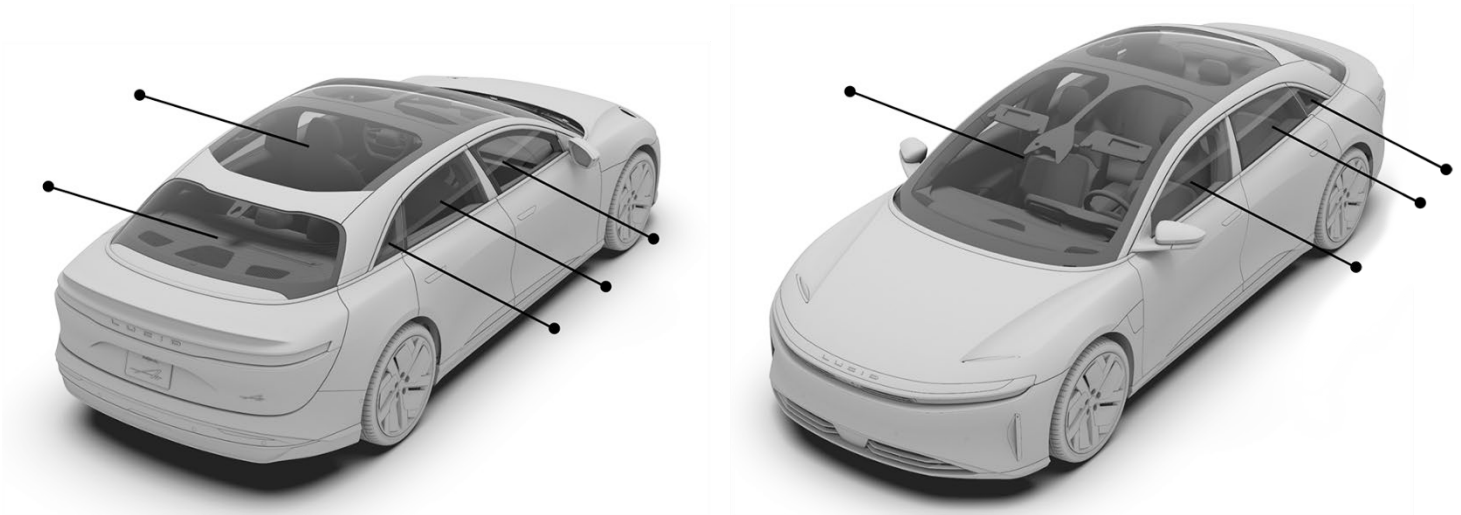


WARNING Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting the Lucid Air. Failure to follow these instructions can result in serious injury or death.



Windows

- Lucid Air utilizes laminated safety glass for **all** exterior windows.
- In an emergency, Safety laminate glass may require the use of high-pressure punch and glass cutters.



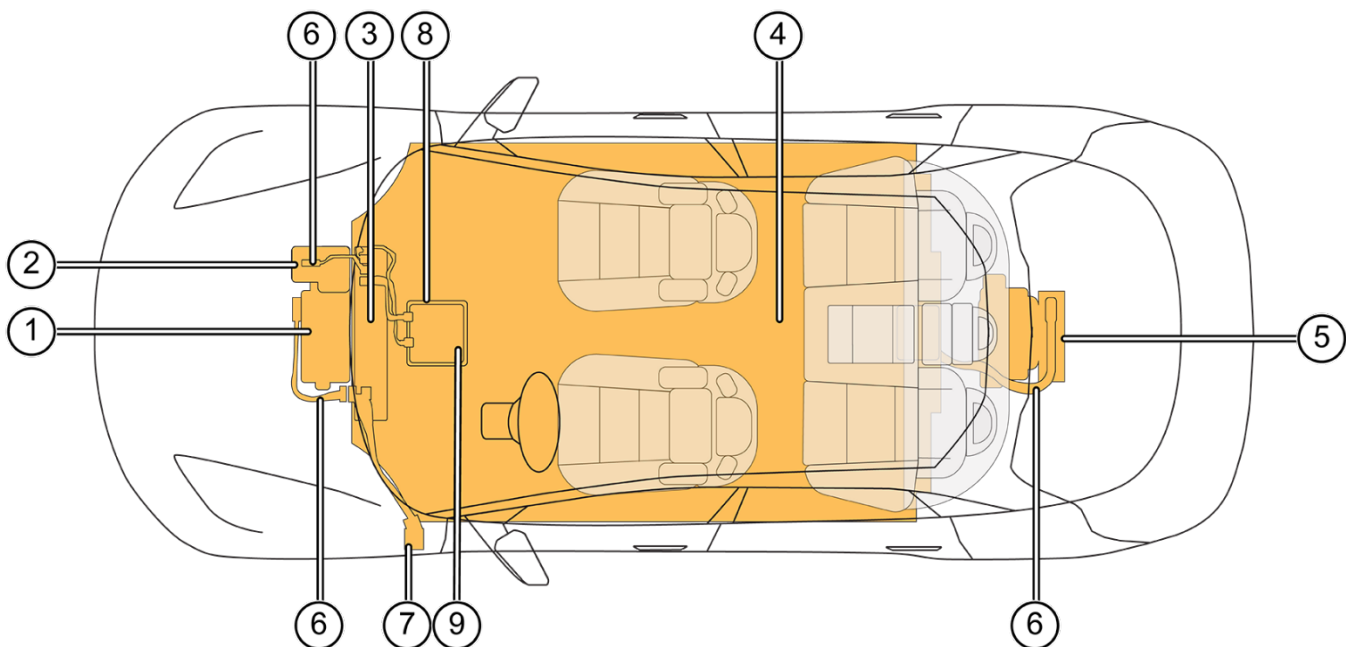
5. Stored energy / liquids / gases / solids

		12 Volts Sealed AGM
		Li-Ion 900 Volts
		R-1234yf 725 grams
-20° Washer Fluid		Methanol 30-40wt% ≤1Gal./3.8L
High-Voltage systems Coolant		Dex-Cool Glycol based ≤5Gal/19L

Note: The cells in the high-voltage battery pack are sealed and there is a low probability of electrolyte creating a pool of liquid. Clear liquid is likely water. The coolant used is orange in color.



High-Voltage Components

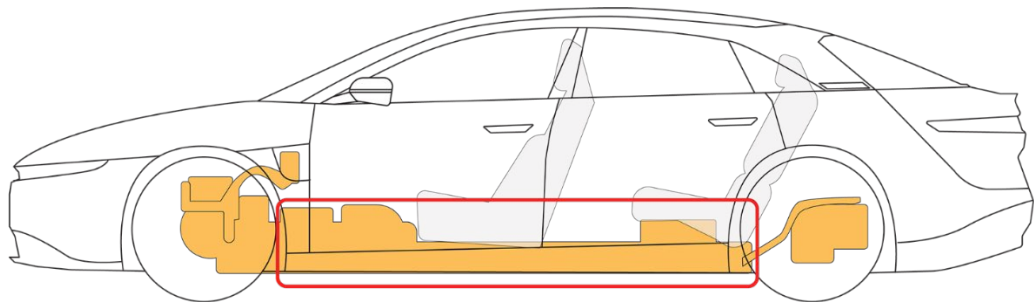


- 1. High Voltage Front Drive Unit
- 2. High Voltage Air Conditioning Compressor
- 3. High Voltage Junction Box
- 4. High Voltage Battery Pack
- 5. High Voltage Rear Drive Unit
- 6. High Voltage Cables
- 7. High Voltage Charging Port
- 8. High Voltage DC to DC converter (located under floor pan)
- 9. High Voltage Coolant Heater (located in passenger compartment)



High Voltage Battery Pack

Lucid Air is equipped with an under-floor mounted 900V lithium-ion battery. The battery is made up of many cells that are liquid-cooled with a glycol-based coolant. The coolant will appear orange in color and may leak from the battery pack if the pack is compromised during a vehicle collision. The battery cells will have stored energy within them. Never breach the high-voltage battery when lifting from under the vehicle. When using rescue tools, pay special attention to ensure that you do not breach the floor pan. Refer to **Chapter 2: Lift Areas** for instructions on how to properly lift the vehicle.

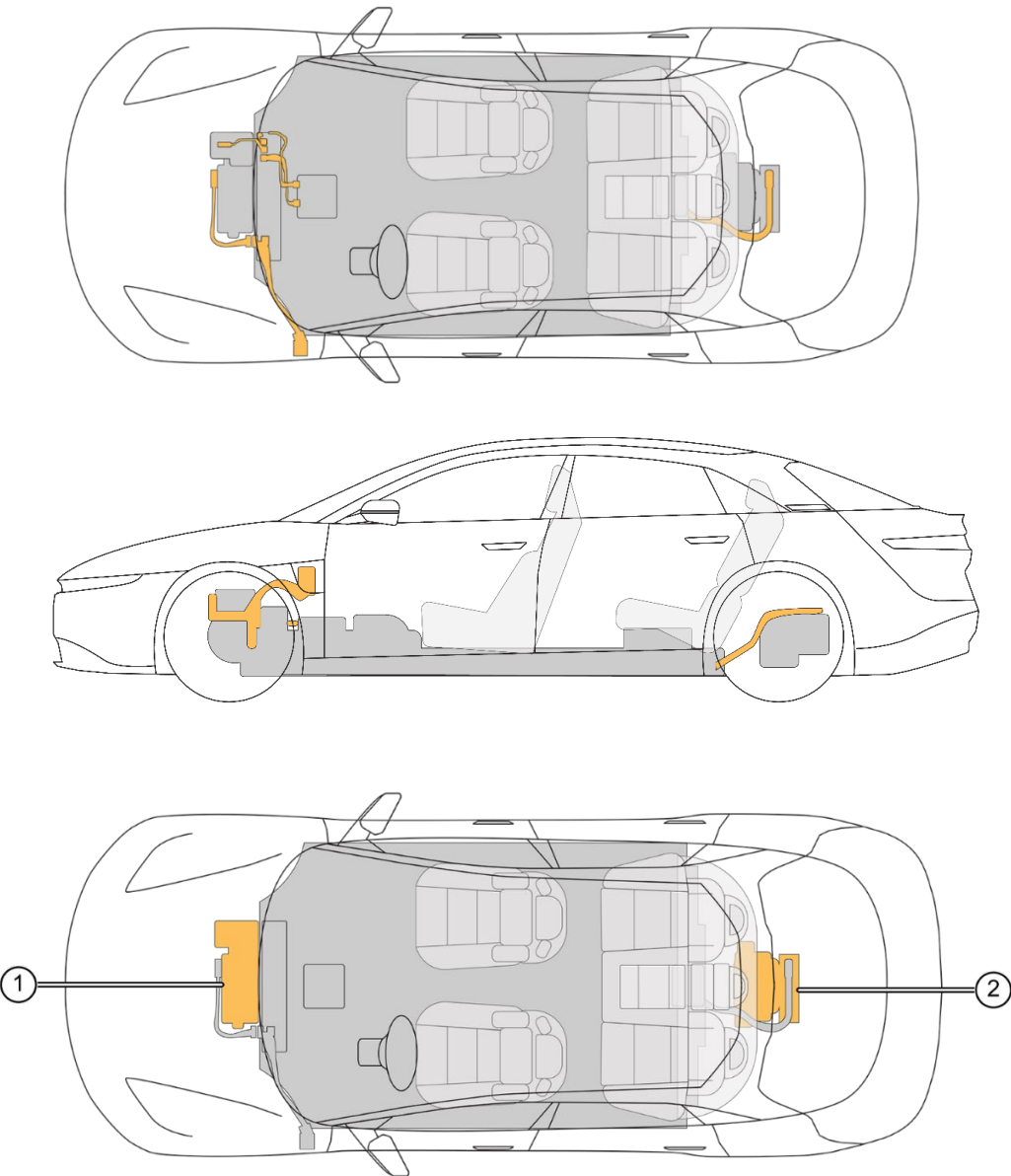


Pushing on the Floor Pan

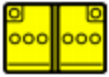
The high-voltage battery is located below the floor pan between the front and rear wheels. Never push or pry on the floor pan of the vehicle. This could lead to a breach of the high-voltage battery or damage the high-voltage cables, which can result in a fire, serious injury, or death. At no time should the high-voltage battery pack be compromised with rescue tools.

High Voltage Power Cable / Component

High-voltage cables are shown in orange. Do not compromise these high-voltage cables with rescue tools. At no time should any high-voltage cables be compromised with rescue tools. The assumption should always be made that there may be high voltage present in the orange, high-voltage cables.

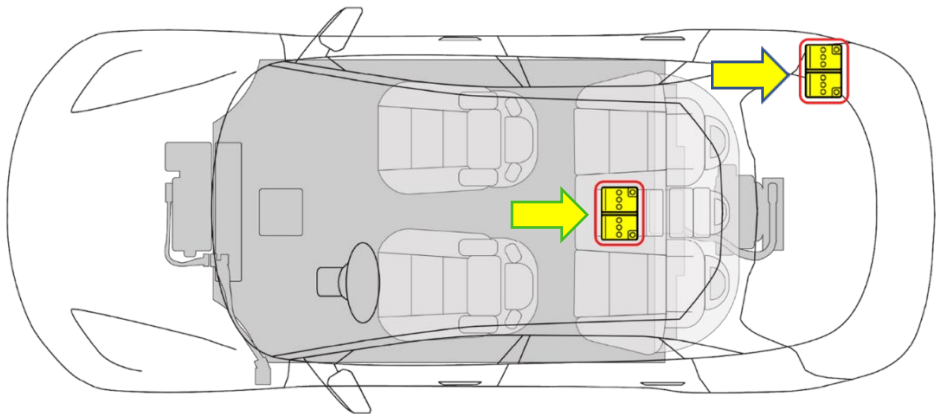


- 1. Front High-Voltage Drive unit
- 2. Rear High-Voltage Drive unit

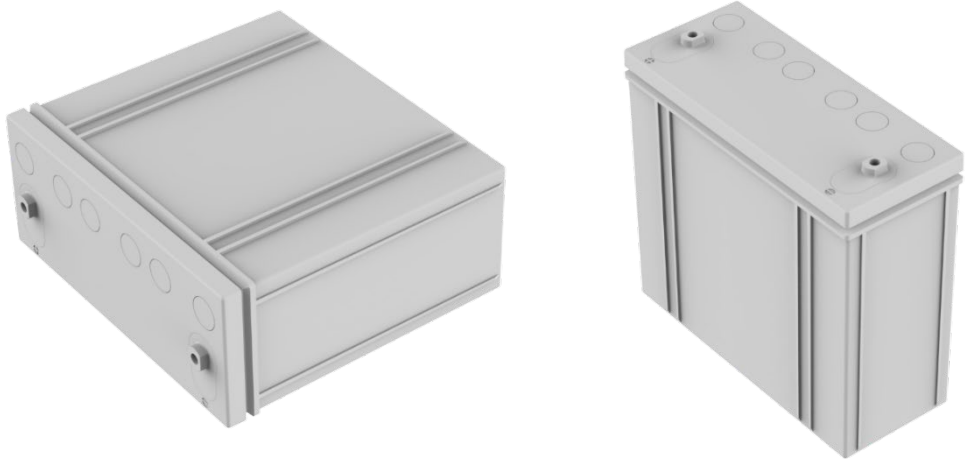


Battery Low-Voltage

Lucid Air is equipped with two low-voltage batteries for redundancy. The low-voltage batteries operate the restraint system, airbags, windows, door locks, touchscreens, and interior and exterior lights. The high-voltage system maintains the low-voltage batteries. One battery is mounted under the rear seat base cushion. The second battery is mounted under an access panel on the right side of the trunk.



To access the low-voltage battery under the rear seat, grasp the lower front edge of the seat bench cushion and pull up firmly to release the two plastic retainer clips whose locations are indicated by yellow arrows on the image above. Then slide the cushion slightly forward to expose the battery, which is mounted on its side.



6. In case of fire

Fire Fighting



WARNING Always assume high-voltage (HV) systems to be energized. During firefighting activities, including overhaul, avoid contact with HV components. Cutting of HV components may cause an arc flash, potentially severely injuring a firefighter.



**Use only water to extinguish the battery pack.
Submerging the vehicle is not recommended.**

The below recommendations are from the Energy Security Agency (ESA), leaders in Electric Vehicle (EV) fire safety and destructive testing of lithium-ion batteries.

The views and opinions Below are not those of LUCID MOTORS. Energy Security Agency (ESA) has determined the following after research and/or testing of the referenced vehicle.

Call the ESA for real time guidance anytime at 855-ESA-SAFE



IMPORTANT: Fires involving Lithium-ion batteries and/or HV components may require copious amounts of water to manage. It is the recommendation of the Energy Security Agency to take a defensive firefighting approach and allow the vehicle to burn in a controlled manner and protect exposures, when possible.

See the following sections for interacting with potential fire conditions for the Lucid air.

6-A Scene Size up

1. Necessary Equipment



- Don all full structural personal protective equipment (PPE)
- Full SCBA
- Thermal Imaging Camera (TIC)

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	24 of 41

- d. 4 gas monitor(s) or atmospheric monitor for CO

2. Establish a HOT ZONE

- a. Must be a 75-foot radius hot zone
- b. It is Recommended to have atmospheric monitoring and thermal imaging present.

3. Determine priorities of the fire

- a. Is life safety at risk? see firefighting guidelines
- b. Is there the ability to let the vehicle burn in a safe controlled manner?



4. Water Supply

- a. ESA DOES NOT recommend the use of FOAM or other agents to extinguish a lithium-ion battery fire in the Lucid Air.
- b. If necessary, an ABC extinguisher can be used to mitigate the fire conditions only for a short period of time. ABC and/or foam may be used on non-battery components of the vehicle.
- c. A direct attack (especially if access to inside the pack is not available) has the potential to require large amounts of water.

6-B Hazardous conditions

- 1. Electric Vehicles present unique hazards that are associated with the high-voltage system: these are grouped into chemical, electrical, and thermal.



- 2. Assume the high-voltage (HV) system to be energized during all interactions.

- a. The HV electrical system is powered with 900 volts of DC power, NEVER make contact with the HV battery or HV components (see diagrams above) as it can result in Electrical Shock or Arc. HV systems could remain charged for up to 10 minutes after being powered down or disabled. High voltage stranded energy is always present in the high-voltage battery.



- 3. Assume smoke conditions to be flammable, explosive, and toxic.

- a. Natural or mechanical ventilation may be necessary to manage gas levels.



4. Off Gassing

- a. When the battery is off gassing, the battery will produce a toxic gas cloud, white in nature, that can be differentiated from smoke by the utilization of a 4-gas monitor(s).
- b. These gasses can accumulate inside of the vehicle at levels above the Lower Explosive Limit (LEL), especially if the vehicle is still relatively airtight and the glass and doors have not been opened or compromised.

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	25 of 41

- c. Extreme caution should be taken prior to any ventilation attempts or opening of doors or windows on the vehicle, as the introduction of fresh air may bring the atmospheric conditions back into the explosive range and result in an explosion if fire or other ignition sources are present.
- d. During the inception and growth phases the off gas can contain detectable levels of Hydrogen Fluoride (HF), hydrogen chloride (HCl), hydrogen cyanide (HCN) and other hydrocarbons and volatile organic compounds (VOCs) that will pose an inhalation hazard. Full firefighter personal protective equipment and SCBA shall be utilized until gas levels are confirmed to be at a safe level. An increase in CO readings will indicate the presence of off gassing and thermal runaway (before and during active burning) of the lithium-ion battery cells. During active burning the 4-gas monitor may show Hydrogen Sulfide (H₂S) and Hydrogen Cyanide (HCN) from cross sensitivity of the Li-ion battery and vehicle synthetics producing Hydrogen (H).
- e. Once ignited, the fire burns up the volatile organic compounds (Hydrogen Fluoride and others) and produces Carbon Monoxide (CO) and Hydrogen (H).



5. Individual Battery Cells

- a. During extreme collisions or when overheated individual cells can potentially explode, catch fire, and be separated from the packs and batteries can possibly scattered over the incident scene.
- b. If these cells become projectiles, structural PPE will protect firefighters from these cells.
- c. For handling of individual loose batteries contact ESA OR call 1-855-ESA-SAFE.



6. Electrolyte Leak

- a. Under normal operating conditions, a cell will not leak or vent. However, cell leakage or venting could occur if the cell is overheated or is mechanically, electrically or physically abused/damaged.
- b. The electrolyte contained within the lithium cells can cause severe irritation to the respiratory tract, eyes and skin.
- c. Violent cell venting could result in a room full of either corrosive or flammable vapors. All proper precautions should be taken to limit exposure to the electrolyte vapor.

Should electrolyte leak from a cell, the following actions should be taken:

- Evacuate and isolate all areas which may be potentially affected by the gas.
 - If in a confined area or indoors; Ventilation should be initiated and continued until after the cell is removed from the area and the pungent odor is no longer detectable.
- *** If the cell vented as a result of excessive heating, it must be allowed to cool to ambient temperature before handling.
- Have Fire Extinguishment nearby (Hose line, water can)
 - Put on All PPE, Remove the cell to a well-ventilated area.
 - Cover fluid on ground with Dry earth, DRY sand or other non-combustible material.
 - Place small amounts of batteries and DRY non-combustible materials into ventilated plastic buckets.
 - Batteries may be placed in water or DRY non combustible material; water will result in discharging cells that may produce thermal events. Dry non combustible material will not discharge cells but will isolate thermal events. Make sure there is 1 part battery to 3 parts DRY NON-COMBUSTIBLE material/Water in buckets
 - Move battery to Dry well ventilated area.
 - Dispose in accordance with applicable local, state and federal regulations.
 - Contact the ESA for additional handling and transportation guidelines of damaged battery components.



7. Coolant

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	26 of 41

- a. High voltage system components are liquid-cooled with a typical glycol-based automotive coolant. If damaged, this orange coolant can leak out of the high-voltage battery.



8. Water runoff

- a. Just as in a combustible engine car fire, assume runoff from firefighting operations may have the potential to be contaminated. Consider utilizing dikes, dams, PIGS, and other measures to limit runoff



9. Thermal dangers

- a. Heat and flames can compromise airbag inflators, stored gas inflation cylinders, gas struts, and other components which can result in unexpected excessive heat, which can cause inflation cylinder explosion.
- b. Lithium Ion fires produce significantly higher levels of heat compared to standard vehicle fires. Direct flame exposure can result in serious injury or death and structural turnout gear may not provide adequate protection to prolonged exposure. Special precautions should be taken by emergency personnel to avoid direct flame exposures.

6-C Firefighting operations

1. Defensive fire

- a. If life safety and exposure protection can be maintained, it is the recommendation of ESA to take a defensive firefighting approach and allow the vehicle to burn. Exposures and atmospheric conditions should be protected and managed throughout the event.
- b. Chemicals released during a fire or explosion will be in a gaseous form and primarily pose an inhalation hazard. If water is used in extinguishing the flames these gasses can become acids which may cause skin irritation. See section 4 of Hazardous Conditions

2. Transitional Attack

- a. If it is necessary to extinguish the fire for life safety or potential exposures the only effective suppression must have a direct flow of water into the battery compartment and any involved HV components. ABC extinguishers and/or foam may be used on non-battery components.
- b. When attacking the fire, use a combination nozzle to provide maximum versatility for flow patterns to address the fire condition and source.
- c. After the initial knock down fire departments must flow water into the vent points or openings created by the fire within the battery pack. Use a ¼ open bail or comparable amounts of water to fill vent points. Remember in Lucid Air, manufactured vent point will not be accessible. Use openings created by the fire/accident. Do not puncture the battery.
- d. Some circumstances may call for technician level lifting techniques to expose vent points.
- e. Water should be applied inside the battery pack for enough time to properly cool the thermal event and stop thermal runaway. Water should be used to cool the battery until the battery shows a thermal reading of below 200 degrees Fahrenheit. Once this temperature has been reached, an atmospheric monitor should be used to difference the difference between steam and smoke. CO should present itself at or below 50 ppm and declining before cooling is stopped.
- f. After cooling efforts are deemed to be adequate, it should be assumed that the pack may reignite or go back into thermal runaway. Vehicle movement is a major mechanism of reignition. Battery should be checked for CO and temperature after any movement.

	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	27 of 41

- g. When using a thermal imaging camera to detect heat buildup on the exterior of the pack consider that battery cells in thermal runaway may take time to heat the exterior of the pack and reveal a heat signature
- h. The amount of time that it takes for a heat signature to appear on a Lucid battery pack may be extended due to a protective, composite plate between the battery cells and the exterior enclosure.
- i. NEVER attempt to create vent holes in the battery pack.

3. Fire in an enclosed structure

- a. Assume smoke conditions to be flammable, explosive, and toxic.
 - i. If off-gassing is present assume that fire conditions can start at any minute. See Section 4 of Hazardous Conditions
- b. Extinguish initial fire conditions by application of water or another agent available
- c. Try to remove the vehicle from the garage or enclosed space using wench, come-along, or another mechanical device. Attachment should be made to a component isolated from high-voltage components.
- d. See above directions for firefighting techniques once the vehicle is removed from structure.

6-D After firefighting suppression is complete

1. Monitoring



- a. Battery must be monitored with a TIC for a minimum of 45 minutes after the last application on water
- b. Battery must remain below 200 degrees Fahrenheit to safely be released for transport
- c. Batteries between 200-300 degrees Fahrenheit have potential to re-ignite.
- d. If the battery is showing tends of increasing temperature, a heat signature of over 200 degrees is detected OR “hot spots” are seen through a thermal imaging camera, reengage in cooling operations

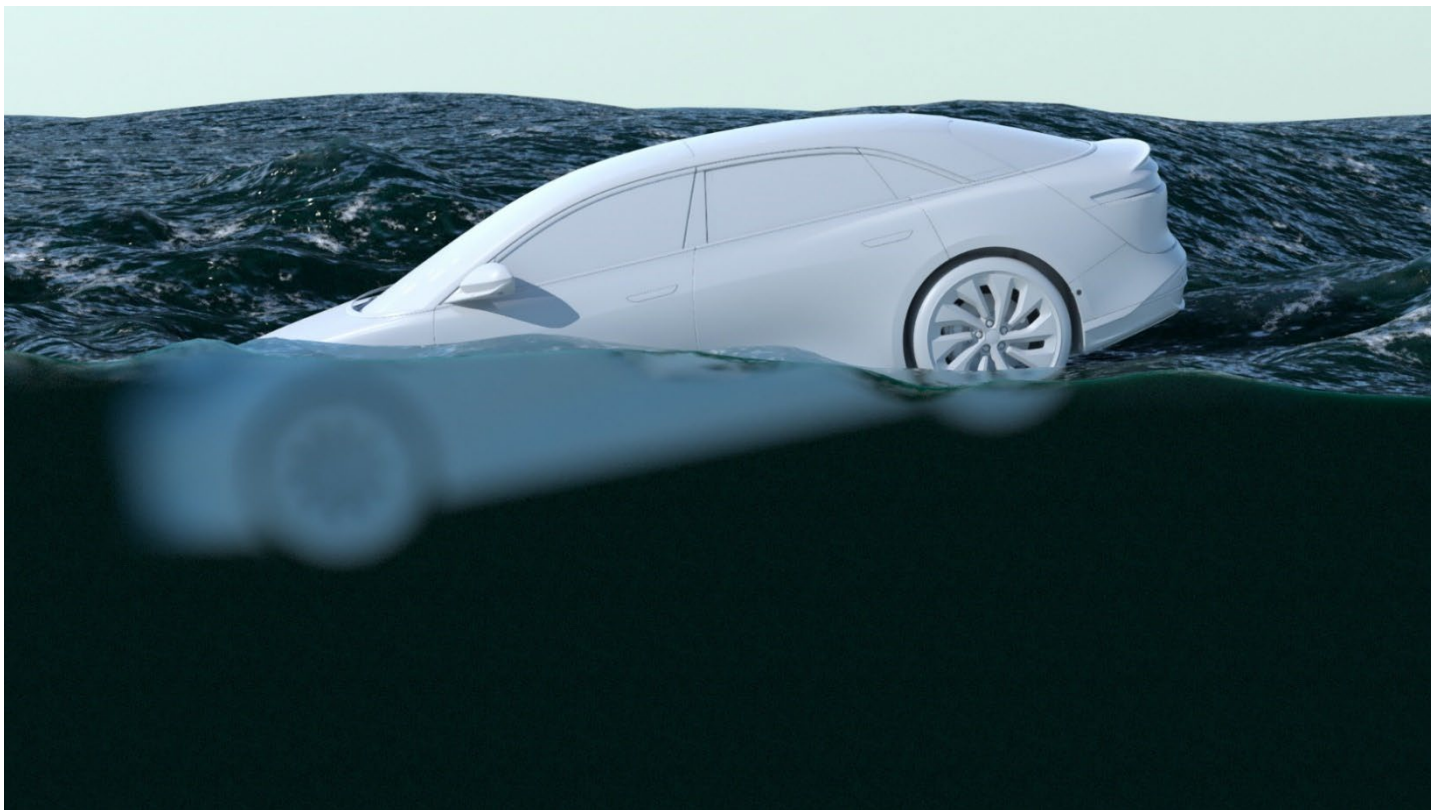
2. Transferring to tow operators

- a. The risk of battery re-ignition remains present for hours or even days after the incident. Even if fire was present and extinguished by the methods listed above there is still a potential for re-ignition.
- b. Prior to the Authority Having Jurisdiction (AHJ) transferring responsibility of the vehicle, they must make the tow operator aware of the need to have a risk assessment done on the vehicle by calling the Energy Security Agency (ESA) at 1-855-ESA-SAFE.
- c. A Lucid Air that has been involved in any fire event or when deemed necessary by the ESA should be stored 50’ away from all exposures. Barrier isolation can also be used to protect exposures
- e. Like all electric vehicles, movement of a Lucid Air after a fire event or collision that has compromised the high-voltage battery may result in a fire event. Limit the movement of the vehicle after a collision or fire. Vehicle movement is a major mechanism of reignition. Battery should be checked for CO and temperature after any movement.
- d. If the vehicle has been exposed to large amounts of water or the pack has been flooded, one side of the vehicle should be elevated to allow water to drain from the high-voltage battery pack.
- e. The AHJ must also insist that an ESA Risk Analysis Placard (RAP) sticker be placed on the vehicle after the assessment to determine proper storage conditions and safety concerns.

For real time support for firefighting/rescue operations involving the Lucid Air call 1-855-ESA-SAFE and a rescue specialist will be available 24/7 to answer any questions

	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	28 of 41

7. In case of submersion



Treat a submerged Lucid Air like any other submerged vehicle. The body of a Lucid Air does not present a greater risk of shock while it is in water. However, wear appropriate PPE when handling any submerged vehicle. Remove the vehicle from the water and continue with normal high-voltage disabling.

Vehicles that have been submerged in water should be handled with greater caution due to the potential risk of a high-voltage electrical battery fire. First responders should be prepared to respond to a potential fire risk. Raise one end of the vehicle to allow water to drain out of the vehicle and the high-voltage battery pack. If the vehicle's structural integrity has been compromised, elevate the undamaged end of the vehicle to allow for proper drainage. After the vehicle is removed from the water, continue normal disabling procedures, as outlined in **Chapter 3**.

Submerged vehicles are highly susceptible to internal short circuiting, resulting in thermal runaway. This may occur immediately upon removal or may be significantly delayed. Submerged vehicles should be staged in a safe area upon removal and monitored for thermal and physical indications of thermal event for 45 minutes prior to transport.

Vehicles that have been submerged or exposed to large amounts of water should receive a risk analysis assessment. **Contact ESA 1-855-ESA-SAFE (1-855-372-7233) for details.**

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	29 of 41

Vehicle Towing and Recovery Methods

Lucid recommends these vehicle recovery methods:

1. High-Speed Dolly

High-speed dolly systems support the vehicle's rear wheels, while a tow vehicle supports the front wheels. **This is Lucid's preferred recovery option.**

Always follow recovery equipment's manufacturer instructions for use.



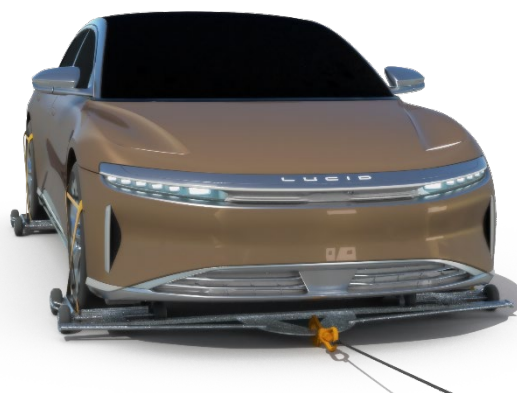
2. Self-Loading Recovery Dolly

Self-loading dolly systems allow winching a vehicle onto a flatbed carrier or rollback tow truck. They incorporate an attachment point for the winch cable directly to the dollies. Use this method when wheels are locked (e.g., due to power loss). Self-loading dollies support all wheels during winching to reduce the risk of vehicle damage.

Always follow recovery equipment's manufacturer instructions for use.

Make sure to secure the vehicle onto the bed as per the dolly's manufacturer instructions, with the vehicle remaining on the dollies.

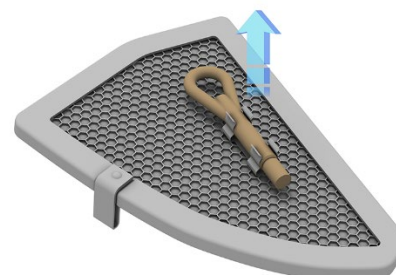
See detailed instructions under **Securing the Vehicle for Transport** on page 10.



3. Tow Eye

The tow eye can only be used at the front of the vehicle but has load limitations (13.9kN/ 1426kg/ 3100lbs) with vertical and horizontal angular limitations for the operation of the winch cable relative to the towing eye attachment location.

Before use, carefully review the instructions under Tow Eye Method on page 7 and consider these limits before using the tow eye.



Transporting the Vehicle



WARNING If the high-voltage battery pack has been damaged, punctured, or compromised, further flexing or structural twisting of the vehicle could lead to thermal runaway, fire, or re-ignition of the high-voltage battery pack. If you know or suspect that the high-voltage battery pack has been severely damaged, do not move the vehicle unless it is necessary for safety reasons to do so, and contact Lucid Customer Care.

NOTE: All four wheels must remain off the ground when towing or transporting the vehicle.



DO NOT TOW THE VEHICLE WITH ANY OF ITS WHEELS ON THE GROUND.



WARNING Towing the vehicle with the wheels on the ground may cause serious damage to the vehicle.

Preparing the Vehicle for Transportation



WARNING The high-voltage battery pack can ignite or re-ignite after an incident if the structure of the battery has been damaged as a result of an accident. Store the vehicle a minimum of 50 ft / 15 m from other vehicles, structures, and flammable materials for a minimum of 24 hours, and monitor vehicle temperatures with a thermal imaging camera.



WARNING The vehicle is equipped with high-voltage components that may be compromised as a result of a collision. It is important to assume these components are energized. Always follow high-voltage safety precautions until emergency response professionals have evaluated the vehicle and can confirm that all high-voltage systems have been disabled. Failure to do so may result in serious injury or death.



WARNING Lack of engine sounds does not mean the vehicle is off. Silent movement or instant restart capabilities exist until the vehicle is fully shut down. Wear appropriate PPE.

Note: The vehicle automatically engages the electronic parking brake when the driver's door opens. **If vehicle electrical systems are not functioning and/or the electronic parking brake cannot be disengaged, use a combination of jack/dollies or tire skates under rear wheels to prevent vehicle damage.**

Pushing the Vehicle

In situations where there is minimal risk of fire or high-voltage exposure (for example, the vehicle does not accelerate after stopping at an intersection) and 12V power is present, the Lucid Air can be pushed to clear the roadway. If a driver is present, shift the Lucid Air into Neutral (N), and push the vehicle. If a driver is not present, the Lucid Air may shift into Park (P) when it detects the driver leaving the vehicle, even if it has previously been shifted into N.

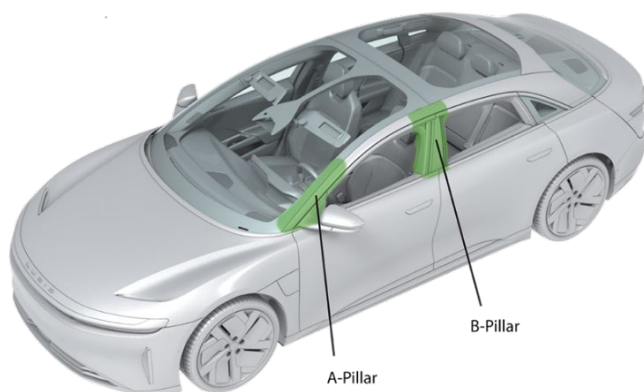
Lucid recommends using only the A and B pillars when pushing by hand, with the windows in the down position.

Note: Body damage will likely occur if the pushing recommendation is not followed. Lucid will not warranty nor be held liable for issues that may result from failure to follow these instructions.

Note: Lucid Air must detect a key in the vehicle, and low-voltage power is required to shift the vehicle into Neutral (N).

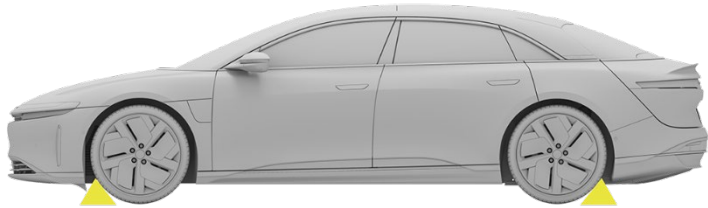
Note: The touchscreen is unresponsive if the Lucid Air has no low-voltage power. Chock the wheels. Then, use an external, low-voltage power source to supply power and shift into Neutral (N). **Once in N, the external power source must be disconnected before moving the vehicle.** When using this method, the vehicle will be free rolling until the external power is reconnected and the vehicle is shifted into the Park (P) position.

See detailed instructions under **Connecting External 12-Volt Power** on page 10.

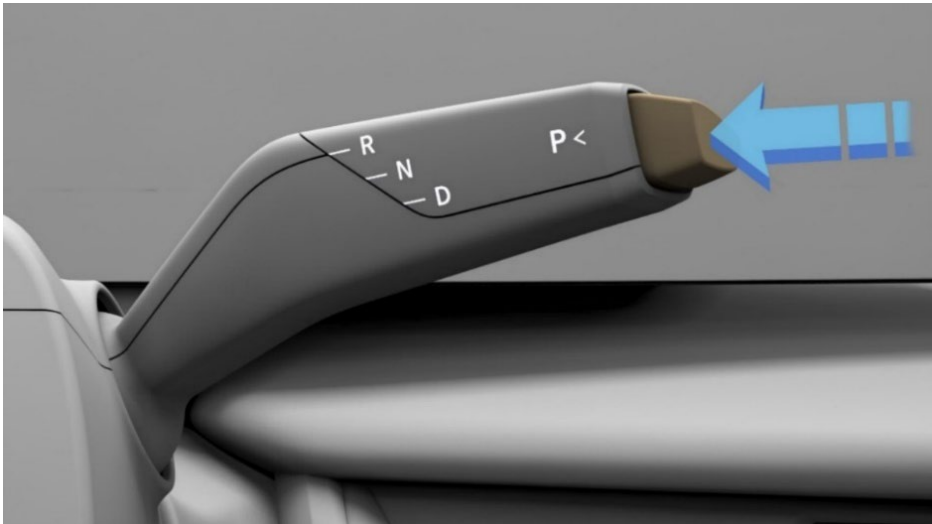


Immobilize the Vehicle

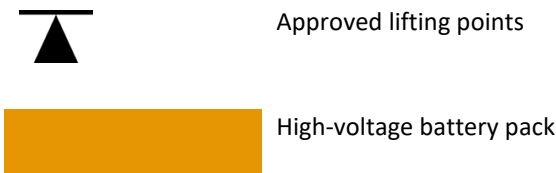
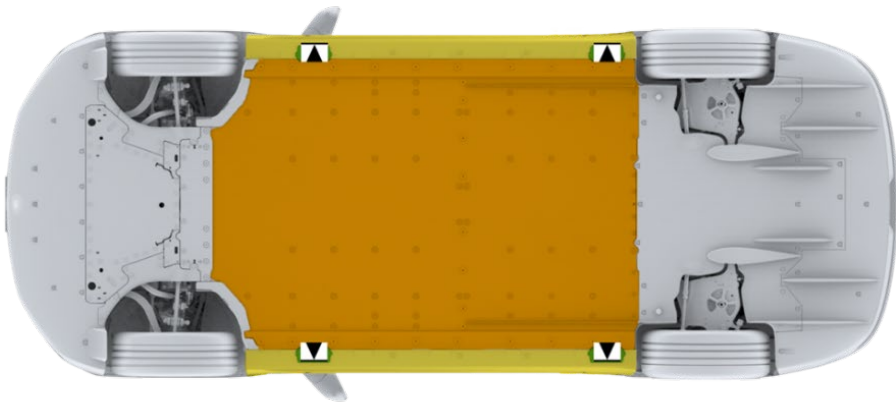
1. Before starting any recovery operation, immobilize the vehicle by installing wheel chocks to prevent roll-away.



2. Apply the Electronic Parking Brake (EPB) by pressing the button on the end of the right-hand mode selector stalk.



3. If lifting is required, ensure the vehicle has been immobilized in the previous steps.
4. When lifting the vehicle, use the provided jack points indicated in the image. **Do not lift the vehicle under the battery pack location**, illustrated by the orange shaded area in the adjacent image.



Tow Eye Method



WARNING Use the tow eye only for loading and unloading the vehicle to/from tow trucks or transports. Under no circumstances should the vehicle be towed by another vehicle along the road using the vehicle tow eye. Doing so can lead to sudden tow eye detachment, which may lead to vehicle damage, injury, or death.



WARNING The tow eye should not be used in situations where the winch cable load will exceed 13.9kN/ 1426kg/ 3100lbs. Exceeding these limits may cause failure of the tow eye, which may lead to damage, serious injury, or death.

The vehicle includes a vehicle tow eye in the trunk under the right-hand side access panel.



Opening the Trunk

Note: If the vehicle's low-voltage power has been disabled, it is necessary to connect an external 12-volt power source to access the tow eye before proceeding. See the instructions under the section titled **Connecting External 12-Volt Power** on page 10.

Option 1:

From the large center touchscreen, touch the 'Openings' icon at the top. Then touch the Trunk Open icon on the lower right of the touchscreen.



Option 2:

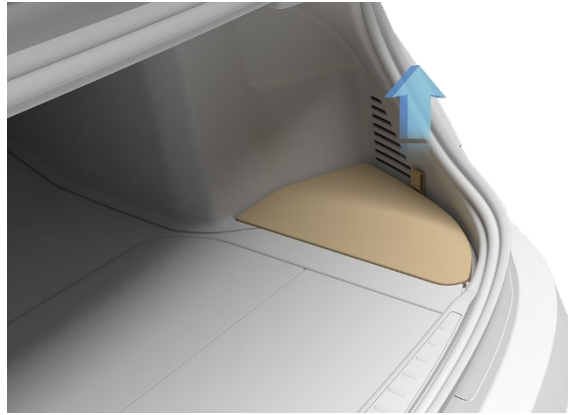
1. Push the trunk release button located above the rear license plate area.



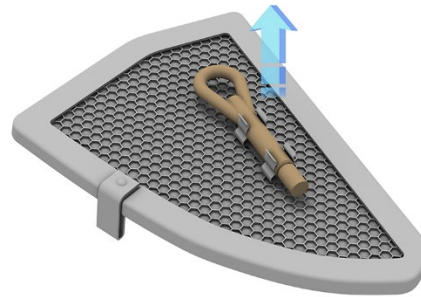
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LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	34 of 41

2. Open the trunk and remove the tow eye from under the right-side trunk floor panel.



3. If an external power source was used to access the trunk, remove the power source, and secure the wiring before moving the vehicle to avoid damage.

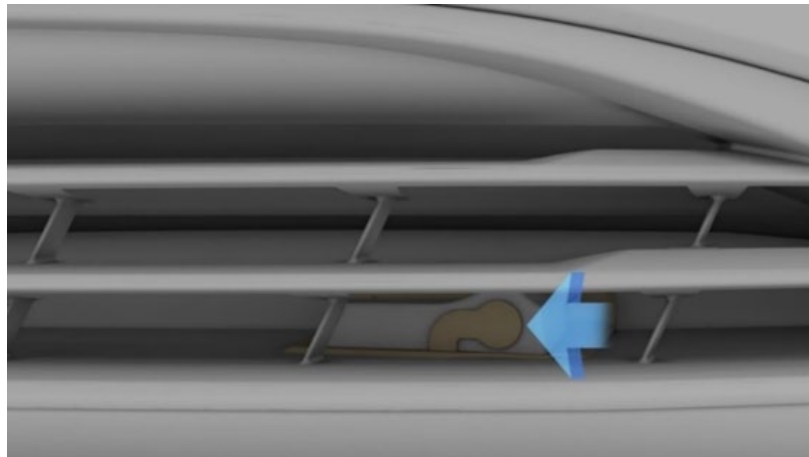


Installing the Tow Eye



WARNING Improper tow eye installation could result in the tow eye detaching suddenly during vehicle winching. This may cause significant vehicle damage and could result in injury or death to anyone nearby.

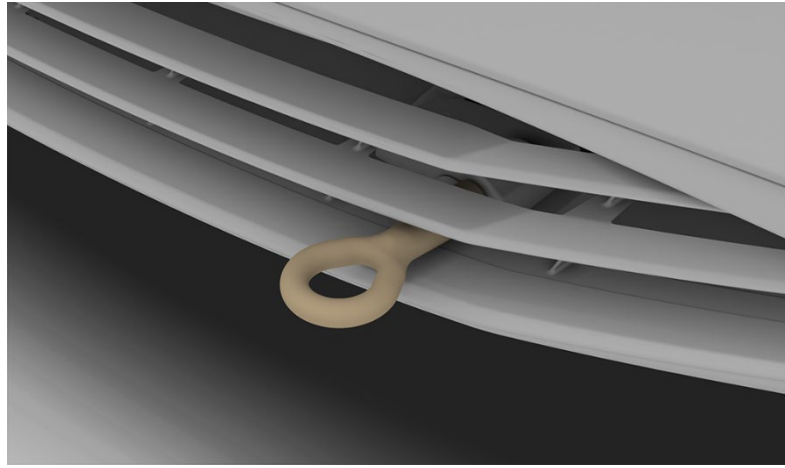
1. The attachment point is located on the front of the vehicle towards the left side. Release the rubber cover from the attachment point between the front grille.



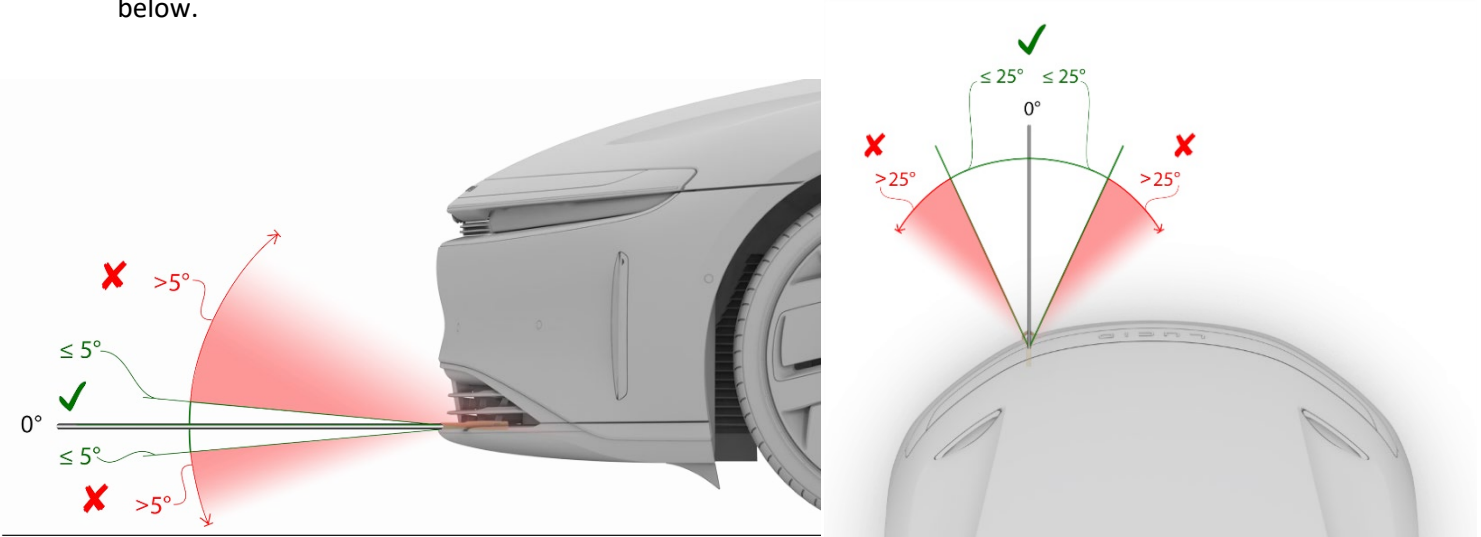
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LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	35 of 41

- Position the tow eye through the bumper and rotate it clockwise into the attachment point on the body until it is fully seated. The tow eye should be parallel to the ground as shown in the image to the right.



- Attach the winch cable to the tow eye. **The pull angles must not exceed 5 degrees from center either up or down and must not exceed 25 degrees from center either left or right.** See the illustrations and warnings below.



WARNING Do not use the vehicle tow eye if the pull angle is greater than 5 degrees vertically from eye-center either up or down. Exceeding these limits may cause tow eye detachment that could result in injury or death.



WARNING Do not use the vehicle tow eye if the pull angle is greater than 25 degrees horizontally from eye-center to either side. Exceeding these limits may cause tow eye detachment that could result in injury or death.

- Place the vehicle in Neutral (N) by pressing and holding halfway down on the mode selector stalk while holding the brake pedal. The vehicle must always be placed in Neutral with all brakes disengaged. Wheels must be able to move freely. **Do not winch the vehicle while the parking brake or the brake pedal is applied. Never drag the vehicle along the ground, as this may exceed the maximum towing line force.** If wheels cannot roll freely, use a combination of jack dollies or tire skates.
- Winch the vehicle slowly onto the trailer or transporter. Avoid shock loading. **Ensure the winch cable line load does not exceed 13.9kN/ 1426kg/ 3100lbs.**

Continued on next page

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	36 of 41



WARNING Do not allow anyone to stand or walk behind the vehicle during winching operations. In the event of winch/cable or tow eye failure, vehicle may roll backwards unexpectedly. This could cause serious injury or death.

6. Once the vehicle is loaded, immobilize it by placing the vehicle in Park (P).
7. After using the tow eye, store it back in the trunk and install the rubber cover on the attachment point. Proceed with securing the vehicle for transport.

Securing the Vehicle for Transport

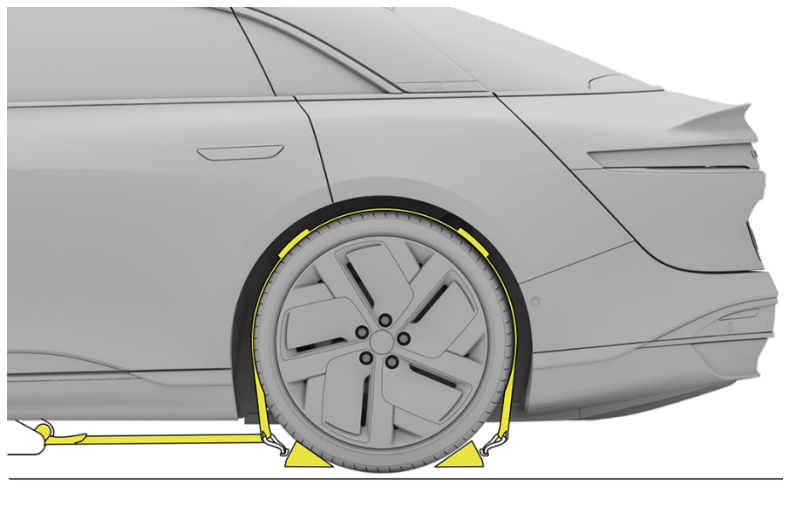


WARNING Attaching straps to the chassis, suspension, or other parts of the body may damage the vehicle.

When the vehicle is in position on the transporter or trailer, use chocks and tie-down straps to secure the wheels.

To avoid damage:

- Ensure that the metal parts on the tie-down straps do not come in contact with the vehicle's painted surfaces or the face of any wheels.
- Do not place straps over or through the vehicle's body panels.



Connecting External 12-Volt Power



WARNING Do not connect a battery charger to the jumper wires. This will exceed the maximum allowable electrical ratings of 12-14.4 Volts 50 Amps. Damage to the ECUs will result. Do not use 12-volt jumper leads for charging the 12-volt batteries. They are only intended for opening a car when the low-voltage system is depleted.



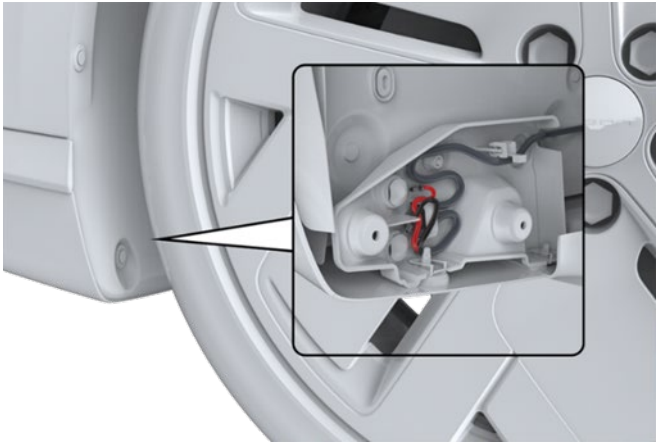
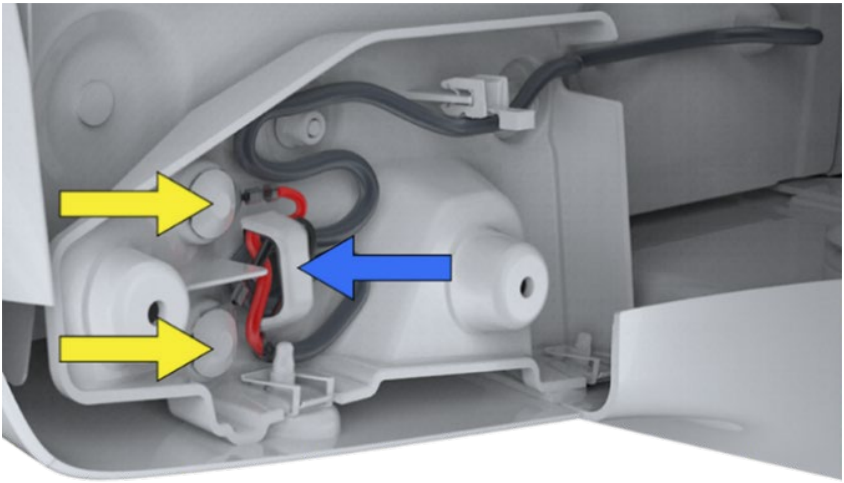
WARNING While external power source is connected, ensure positive (+ red) and negative (- black) leads do not come in contact with each other. This could cause sparks or damage the external power source. Refer to the external power source manufacturer's instructions for use.

Note: Use a 12-volt jumper pack or equivalent. Do not use “Boost” or “Starting” modes as these may exceed the electrical specifications of the vehicle jumper connection (12-14.4 Volts 50 Amps Max).

Note: Lucid will not warranty nor be held liable for issues that may result from failure to follow these instructions.

Continued on next page

LUCID	Document	Version	Date	Page
	50E-ANA21ERG	03	11/4/2022	37 of 41

1. Jumper leads are located under the wheel well liner just aft of the right rear wheel. Using a tool such as a flathead screwdriver, carefully remove the 2 lower pop clips. Pull the wheel liner out far enough to expose the jumper leads.	 A photograph of the rear wheel well area of a vehicle. A white plastic wheel well liner is partially pulled back, revealing a cluster of wires (red, black, and white) and two white pop clips. A callout box with a pointer indicates the specific area where the clips are located.
2. To extend the leads from the wheel well area, carefully remove the jumper lead retainer clips (indicated by yellow arrows in the image) using a tool such as a flathead screwdriver. Route the black lead back through the retainer loop (indicated by the blue arrow in the image). Once the leads are free, they can be extended beyond the wheel to connect to the external power source. The red lead should be connected before the black lead.	 A close-up photograph of the jumper lead assembly. Two yellow arrows point to white retainer clips on the left side of the assembly. A blue arrow points to a black wire being routed through a loop on the right side of the assembly. The red and white wires are also visible.
3. Remove external power source and re-secure wires before moving vehicle. <u>Failure to disconnect an external 12V system prior to continuing tow activities can lead to serious vehicle damage.</u>	

For Additional Information:

Towing providers with questions should call 888-99-LUCID (888-995-8243).

9. Important additional information

This document contains important instructions and warnings that must be followed when handling Lucid Air in an emergency situation.



WARNING Always use the appropriate rescue tools and always wear the appropriate PPE. Failure to follow these instructions may result in serious injury or death.



WARNING Regardless of the disabling procedure used, always assume that all high-voltage components are energized. Cutting, crushing, or touching high-voltage components may result in serious injury or death.



WARNING After disabling the high-voltage system, circuits require 2 minutes to de-energize.



WARNING The SRS control unit has a backup power supply with a discharge time of approximately 10 seconds. Do not touch the SRS unit within 10 seconds of an airbag or pre-tensioner deployment.



WARNING Handling a submerged vehicle without the appropriate PPE for water rescue may result in serious injury or death.



WARNING When fire is involved, consider the entire vehicle as energized. Always wear full PPE including SCBA.



WARNING When cutting the first responder loop, always double cut the loop and remove an entire section. This minimizes the risk of the cut wires accidentally reconnecting.



WARNING When using the high-voltage shut disabling methods recommended by this document, high-voltage power should be isolated to the high-voltage battery pack. The high-voltage battery pack is always energized.



WARNING Never transport the Lucid Air with the wheels on the ground. Doing so can lead to significant damage and overheating. In rare cases, extreme overheating may cause the surrounding components to combust.

For real time support for firefighting/rescue operations involving the Lucid Air call 1-855-ESA-SAFE and a rescue specialist will be available 24/7 to answer any questions

10. Explanation of pictograms used

	Class B High-Voltage Propulsion System		Infrared Thermal Camera
	High-Voltage Battery Pack		Lifting Point
	Procedure for Disabling High-Voltage		Extinguish with Water
	General Warning		Gas Detector
	Warning, High-Voltage Electricity		Hood Opening
	Warning, Low Temperature		Trunk Opening
	Explosive		Gases Under Pressure
	Flammable		Environmental Hazard
	Corrosives		Cable Cut
	Hazardous to Human Health		Lateral Seat Movement
	Acute Toxicity		Vertical Seat Movement
	Steering Column Movement		Air Conditioning Component