

Waymo autonomously driven Ojai

Emergency Response
Guide and Law Enforcement
Interaction Protocol



WAYMO

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Waymo Fully Autonomous
Ojai

Introduction to Waymo's vehicle and service

WAYMO



Introduction

Introducing the all-electric Ojai equipped with the 6th-generation Waymo Driver.

This document includes material from the Zeekr “Information for First and Second Responder – Emergency Response Guide For Vehicle Zeekr RT” and supplemental information related to the Waymo Driver, Waymo's autonomous driving technology.

This guide is intended to be used by trained first responders and assumes a professional-level background in safely responding to emergencies, including those involving damaged vehicles.

Waymo has published and updated versions of Law Enforcement Interaction Protocols since 2019 in partnership with first responders and emergency services personnel in the communities we serve. We want to thank our partners in Phoenix, San Francisco, and Los Angeles metro areas, as well as California Highway Patrol and Arizona Department of Public Safety.

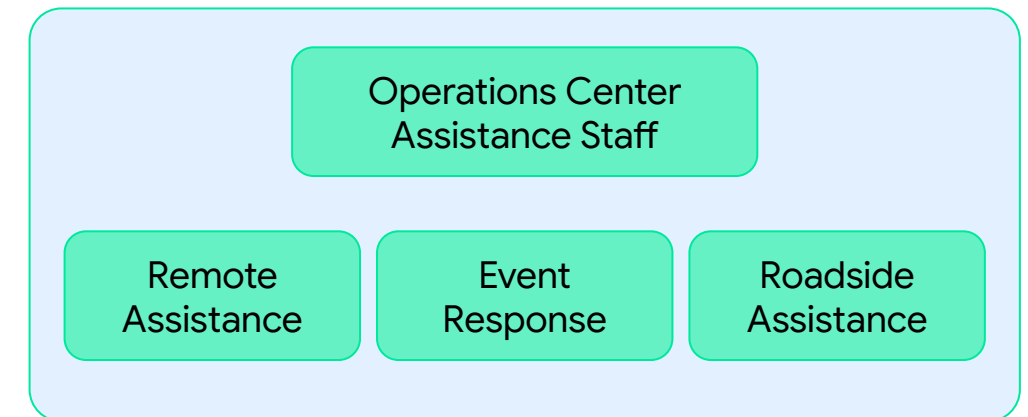
The information in these protocols is organized from more general orientation to more specific information about how to respond to specific scenarios and hazards.

Waymo updates these protocols to reflect material changes to the technology, ODD, regulatory guidance, and other factors.

Waymo Operations assists first responders

Waymo supports first responder interactions with Waymo vehicles in the field via operations teams available 24/7

- **Remote Assistance (remote location)***
 - Supports Waymo vehicles with tools to enhance vehicle performance.
 - Escalates first responder interactions to emergency response.
- **Event Response (remote location)***
 - Talk to first responders interacting with the vehicle.
 - Confirm the vehicle will remain stopped.
 - Instruct first responders on how to disengage the system, disconnect power, or take manual control of the vehicle.
- **Roadside Assistance (on-scene, direct interaction)**
 - Responds on-site to any vehicle at a scene.
 - Interacts with first responders and move the vehicle.



*This is part of the “indirect interactions” category in AVSC-I-01-2024.

Waymo toll-free hotline for first responders

Waymo has established a toll-free 24-hour telephone hotline dedicated to allowing police, fire departments, and other first responders to communicate directly with Waymo's professionally-trained specialists at any time during our vehicle testing and operation on public roads.

1-877-503-0840

We ask that emergency responders calling this hotline identify themselves and their agency, the numerical identifier of the vehicle in question, license plate, and any location information available.

See page 19 for how to contact Waymo assistance staff via the vehicle's two-way audio.

Quick Response (QR) Code for Waymo toll-free hotline

QR Codes allow police / fire departments, and other first responders to directly contact and communicate with Waymo's professionally-trained specialists using their own cell phones.

The QR code label is located on the driver and passenger side windows, next to the side view mirrors.

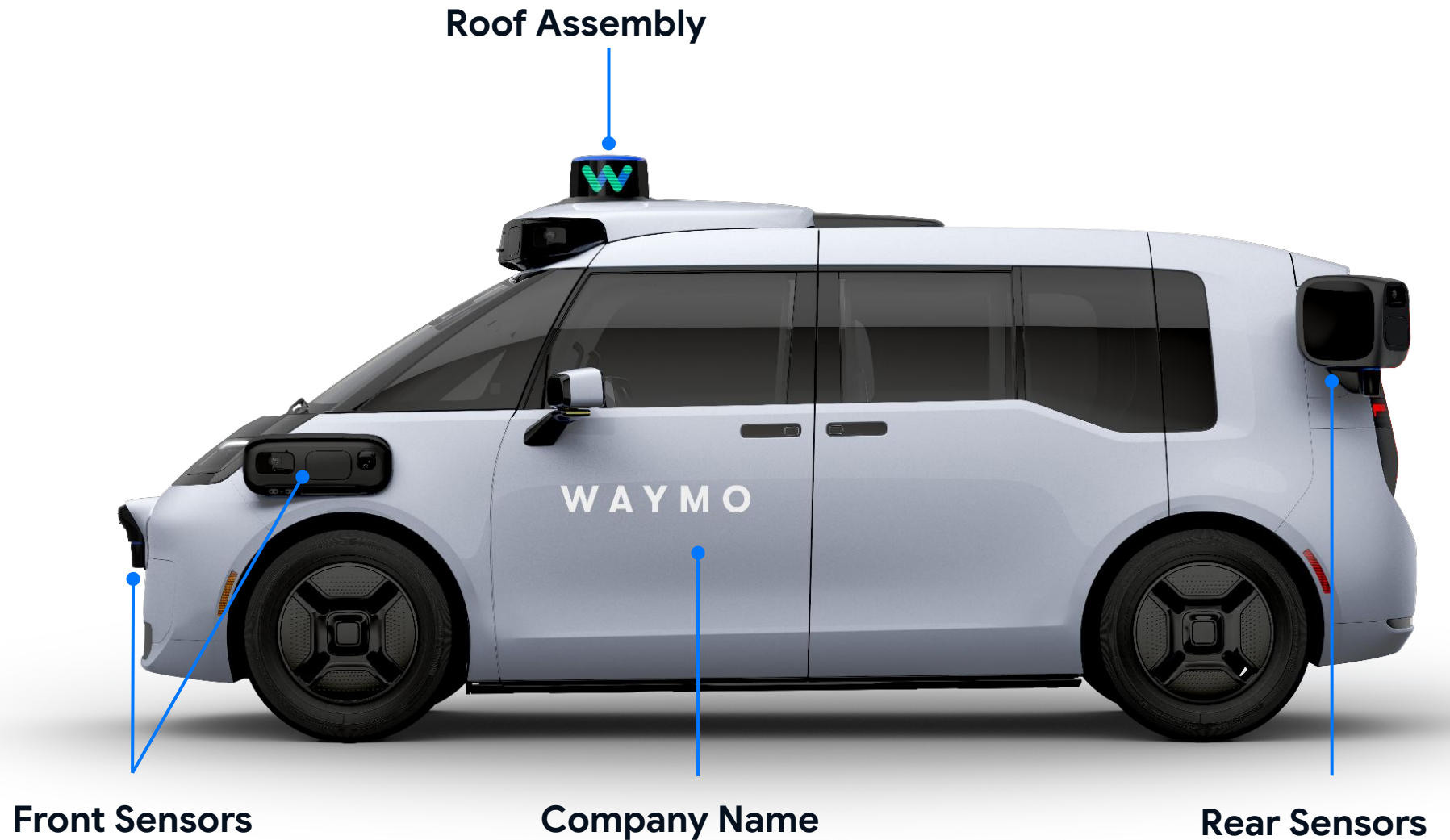


Identifying Waymo's fully autonomous vehicles

The Ojai vehicle can be easily identified by the roof assembly and sensor housings.

Specific Waymo brand features include:

- Waymo blue colored band around the rooftop and other sensor housings
- Light display on the rooftop sensor that may show a “W” logo, two-letter rider initials, or other icons (e.g. boarding, pedestrian crossing)
- Company name on the side of the vehicle



Identifying Waymo's fully autonomous vehicles

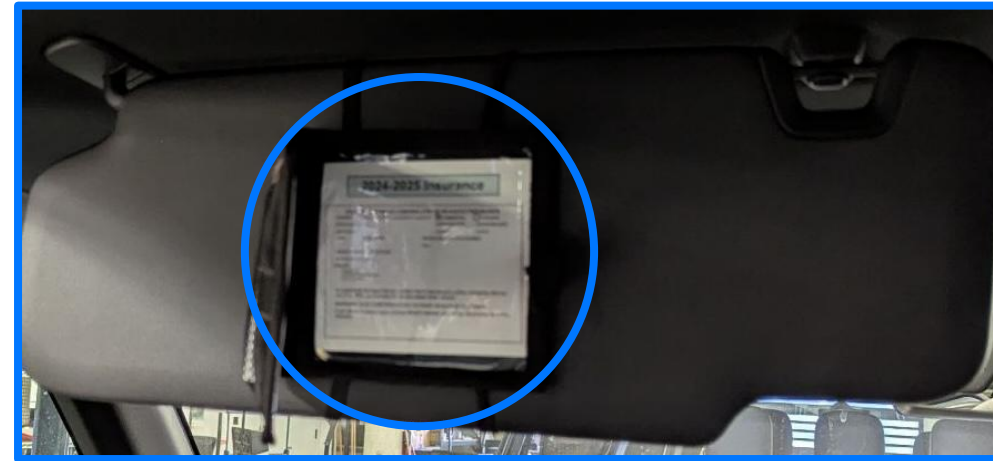
Each Waymo vehicle is identified by license plate, in addition to required identifiers in the jurisdiction (e.g. carrier identification symbol).



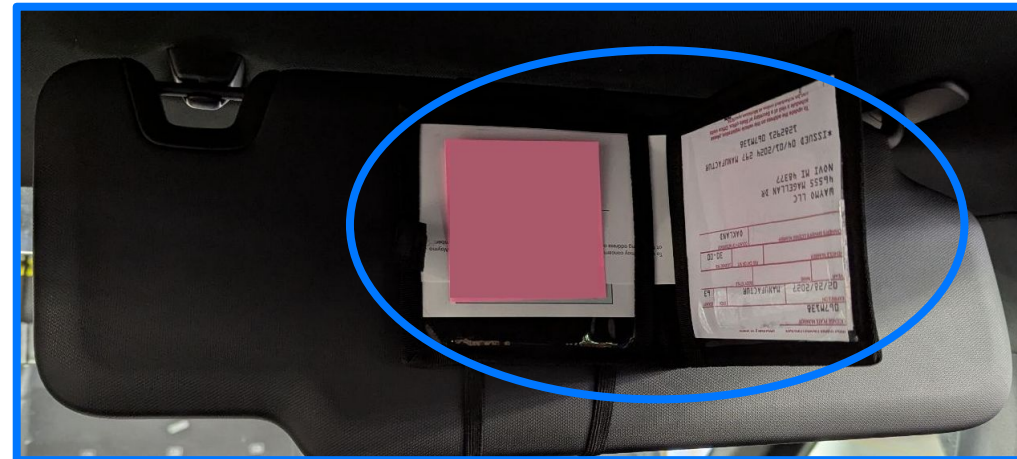
Location of in-vehicle documents

Two physical copies of vehicle owner information, vehicle registration, and proof of insurance are stored inside each vehicle.

Each of the following locations contains the same sets of documents, and either set of documents can be accessed in the event law enforcement requires this information.



**In a container
affixed to the
front driver-side
sun visor**



**In a container
affixed to the front
passenger-side
sun visor**

Level of automation

The Waymo vehicle is capable of autonomous operation.

- It is capable of performing the entire dynamic driving task within its operational design domain.
- It is capable of performing a safe stop without human intervention.
- It is equipped with redundancies for critical systems, such as sensors, computing, steering and braking, and can automatically detect changes to the vehicle or the environment and determine an appropriate response to keep the vehicle, its passengers, and other road users safe.



Operational design domain

The Waymo vehicle is intended to operate in the following conditions:

- On roadways including freeways, highways, city streets, rural roads, and other roadways, including all speed limits.
- In parking lots.
- At all times of day and night.
- All rain, fog, and other weather conditions.

Conditions that limit autonomous operations include:

- Widespread snow or ice accumulation on the roadway.

Waymo vehicles can only be operated without a human driver in autonomous mode within specific geofenced areas, where they have been tested and validated to safely perform all the dynamic tasks of driving without human intervention.

- Testing and deployment territory will be expanded incrementally over time via our rigorous testing and validation process.
- Information relating to these areas is provided by Waymo directly to state and local authorities, prior to any fully autonomous operation without a human driver.

Response to police & other emergency vehicles

The Waymo vehicle uses its sensors to identify first responders, emergency vehicles, and temporary traffic control devices by detecting their appearance and features like sirens and emergency lights.

- The Waymo vehicle is designed to yield as appropriate to stationary or moving emergency vehicles, no matter which direction they are headed.
- The Waymo vehicle is designed to respond to customary first responders instructions.

If a Waymo autonomous vehicle detects that a police or emergency vehicle is behind it and flashing its lights, the Waymo vehicle is designed to pull over and stop when it finds a safe place to do so and, once stopped for a traffic stop, to remain stationary for the duration of the stop.

- Waymo assistance staff can unlock the doors and roll down the windows to enable communication with law enforcement, including, for example, confirming from law enforcement that a vehicle may continue autonomous operations after a traffic stop.
- Waymo's assistance staff has protocols for interacting with any vehicle passengers in the event of the vehicle being pulled over or involved in a collision, by providing information through in-vehicle speakers, on the in-vehicle displays, and communicating with passengers through in-vehicle telecommunications capabilities.
- Waymo roadside assistance will be dispatched when needed to provide on-scene support for passengers and/or first responders.

Collision response

The Waymo vehicle is capable of detecting that it was involved in a collision. In that event, the vehicle will brake until it comes to a full stop or find a suitable place to park and immediately notify Waymo's assistance staff.

- Waymo's assistance staff will call 911 if the circumstances warrant (e.g., where there is a significant collision in which police may be needed because of injuries, vehicles blocking traffic, etc).
- Waymo roadside assistance may be dispatched when needed to provide on-scene support for passengers and/or first responders.
- The Waymo vehicle will react differently depending on the nature of the collision. In the event an airbag is deployed, the base vehicle's electric propulsion system will be disabled.

Waymo Fully Autonomous
Ojai

Approaching,
disabling,
and towing

WAYMO



Determining the Presence of Passengers

A Waymo autonomous vehicle may be operated with or without passengers. To determine whether or not there are passengers present in the vehicle, a first responder should follow these steps:

- Do a visual inspection of the passenger area of the vehicle.
- Call the toll-free hotline for emergency responders to speak with a Waymo representative.

1-877-503-0840

Ensuring the vehicle will not drive autonomously

The vehicle will not drive autonomously while any of the following are true:

- Any airbags are deployed
- Any door is open
- The vehicle is in Park (page 20)

Open a door of the vehicle to prevent the vehicle from autonomously driving or assist passengers with exiting:

- Break a window if doors are locked and immediate entry to vehicle or ventilation of passenger compartment is necessary.
- Call Waymo (1-877-503-0840) to unlock the doors remotely if there is time and there are no signs of battery heating, smoke, or fire.

Keep at least one door open until the base vehicle is turned off (page 21)

Vehicle hazard lights will be active while the vehicle is in stopped or parked condition:

- Parking Brake applied
- Pulled over
- Stopped for extended period of time

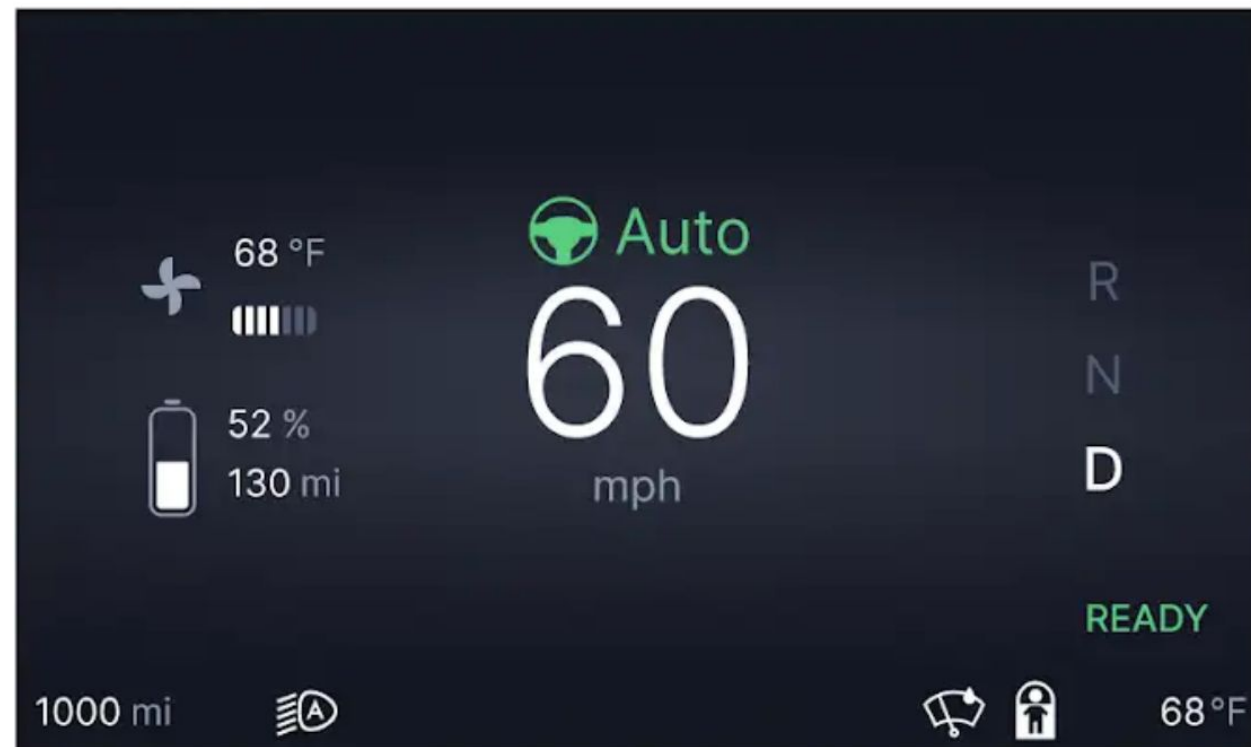


Vehicles can roll or move regardless of autonomous driving state. Always use standard precautions including wheel chocks.

Identifying autonomous mode

The instrument panel indicates when the vehicle is operating in Autonomous mode or in Manual mode.

The vehicle is operating in Autonomous mode when the word Auto is displayed in green on the instrument panel (see below).



The vehicle is operating in Manual mode when the word Manual is displayed in gray on the instrument panel (see below).



Disabling autonomous driving mode

Emergency responders needing to disable autonomous driving mode should contact Waymo using one of the following methods:

- Call: **1-877-503-0840**
- Or: **Activate in-vehicle call with assistance staff by pressing the horn on the steering wheel.**

Identify yourself and request that the Waymo assistance staff authorize the vehicle for manual mode. If calling the toll-free hotline, you will need to identify the vehicle by license plate and/or location.

Follow the Waymo assistance staff's instructions, including to provide identification verification information, if requested.

Push the horn to activate a call from assistance staff to the vehicle (if assistance staff have not already called in).



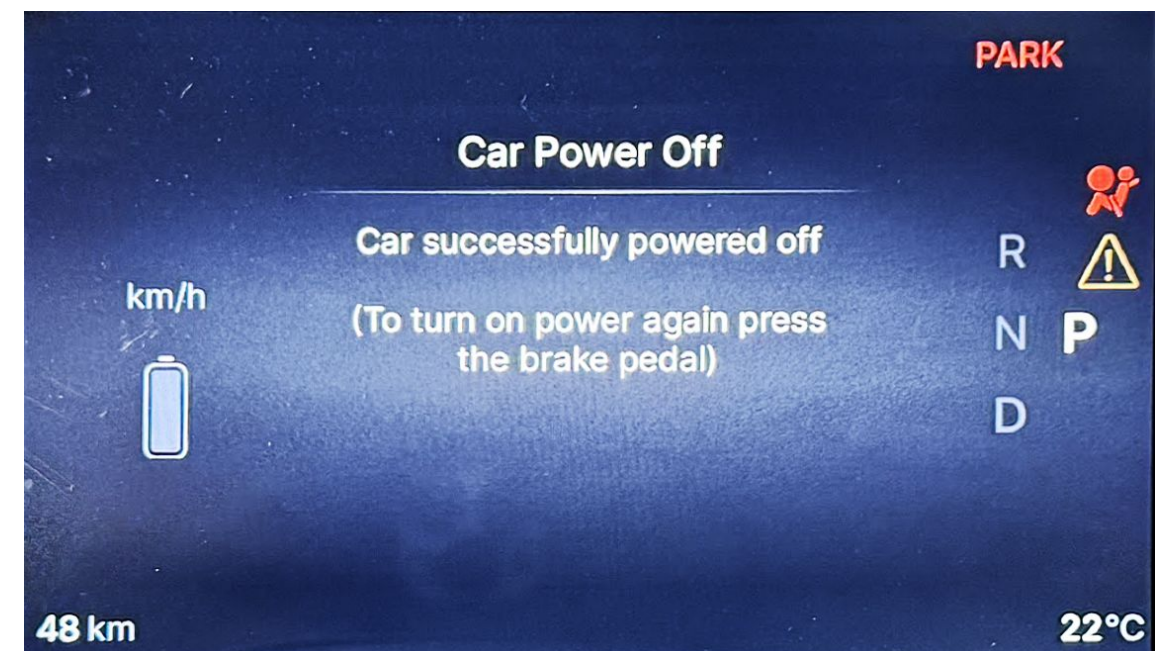
NOTE: Successful transition to manual mode can be confirmed by attempting to turn the vehicle on or off or change gears. If gears can be changed or the vehicle can be manually turned on or off, the vehicle is not in autonomous driving mode.

Parking brake operation

- The vehicle is equipped with Electronic Parking Brakes. It is not equipped with transmission lock.
- To shift the vehicle to Park, press the "P" button at the end of the shift lever, which results in the powertrain entering Neutral and brake system applying Electronic Parking Brakes.
- To confirm if the Parking Brake is applied, check if the red "Park" indicator is displayed on the right of the instrument cluster display and the "PRND" highlights "P."
- The Parking Brake cannot be manually controlled while the vehicle is in autonomous driving mode. See page 19 to disable autonomous driving mode.

The Electronic Shift Control and Parking Brake cannot be manually controlled while the vehicle is in autonomous driving mode. See page 19 to disable autonomous driving mode.

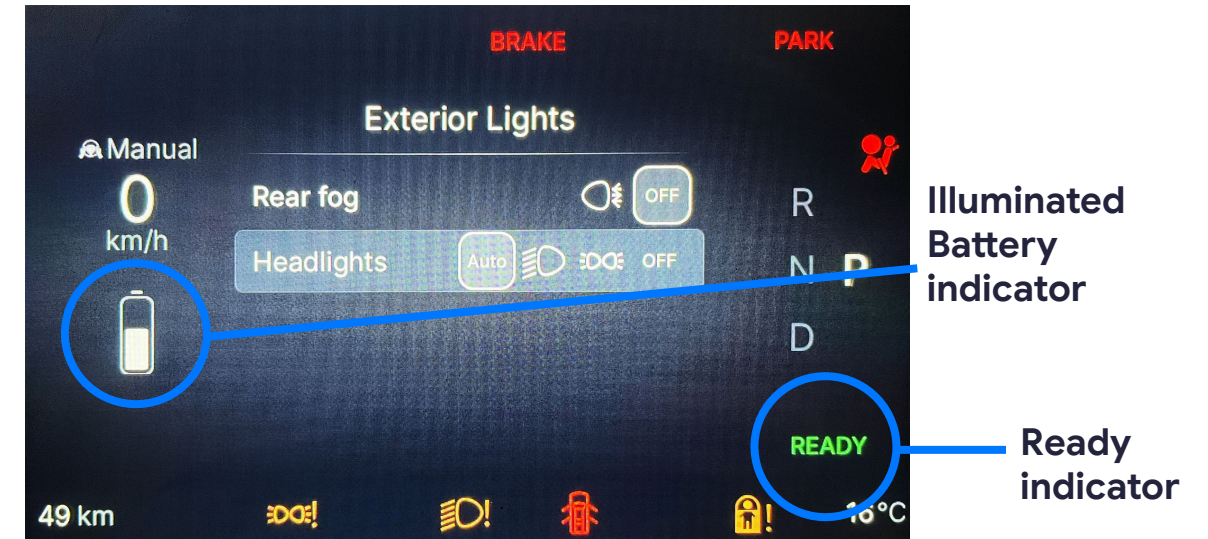
NOTE: Base vehicle 12V power must be functional to shift in or out of Park.



Turning the vehicle off

The instrument panel indicates when the vehicle is running or when it is off

- **READY** when the vehicle is turned **ON** and **can be driven**
- **Illuminated battery without Ready** when the vehicle's electrical system is switched on and the vehicle is **NOT ready to be driven**
- Greyed battery icon  when the vehicle electrical system is switched off



To turn off the vehicle:

1. Disable autonomous driving mode (page 19).
2. Press the Menu button and use the joystick to navigate to the bottom on the cluster.
3. Select "Power Off" until the "Car successfully powered off" is displayed.

Car successfully powered off

If the button does not turn the vehicle off:

- Ensure autonomous driving mode has been disabled (page 19).
- Disconnect the 12V batteries (page 30).
- Disconnect the HV battery (page 31).



Opening the rear trunk

The rear trunk is locked during normal operation.

To access the trunk:

1. Disable autonomous driving mode (page 19).
2. Press the liftgate button on the rear of the vehicle, the button is directly below the reverse camera (see right).

NOTE: The rear liftgate latch is electrical and cannot be manually controlled when in autonomous driving mode or if base vehicle 12V power is removed.



Opening the front hood

To open the front hood:

1. Disable autonomous driving mode (page 19).
2. In the driver display, navigate to Settings > Hood.

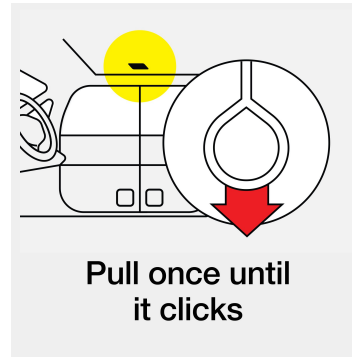
NOTE: The front hood latch is electrical and cannot be manually controlled when in autonomous driving mode or if base vehicle 12V power is removed.



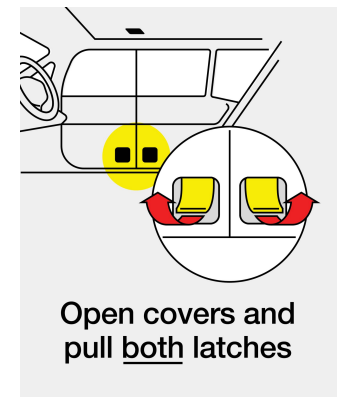
Joystick to navigate.
press down on middle to
confirm.

Menu
button

Opening doors from inside without power



1. Remove the emergency cover in the roof lining and pull the strap until it clicks.



2. Open the emergency covers at the bottom of each door and pull both latches.



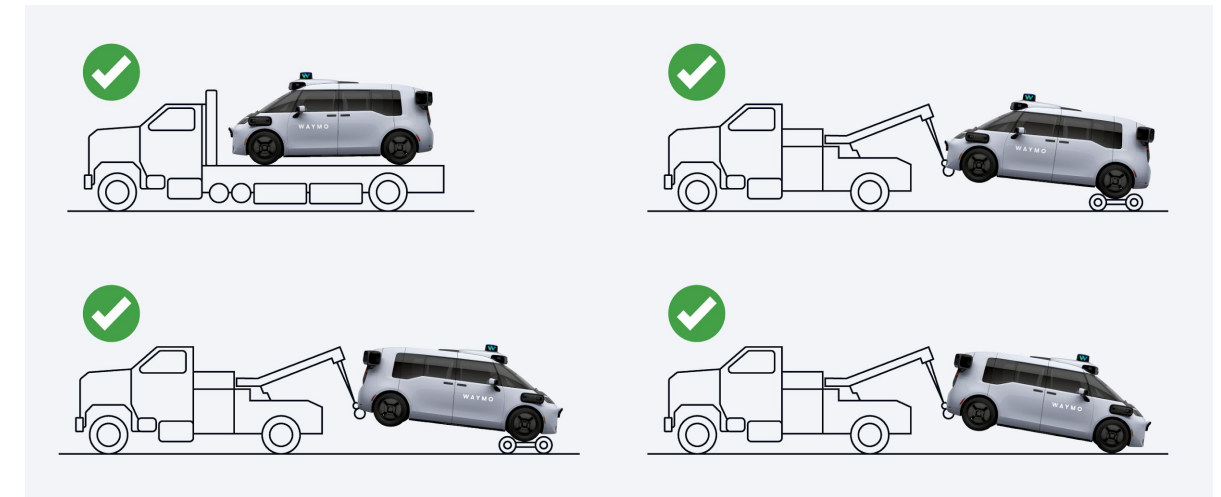
3. Push the doors out. (The back door will be easier to push if the front is open.)

Towing the vehicle

The recommended method for recovery or transportation of the vehicle is on a flatbed truck or trailer designed for that purpose.

- The following towing methods are also acceptable (see illustration):
 - Lifted front wheels and the rear wheels on a dolly.
 - Lifted rear wheels and the front wheels on a dolly.
 - Lifted rear wheels and the front wheels on the ground.
- Make sure that the steering column is unlocked during vehicle recovery. The smart key must remain inside the vehicle and the vehicle's electrical system must be switched on.
- Do not tow on all four wheels. Doing so can result in serious damage to the vehicle. Towing with front wheels suspended requires the rear wheels on a dolly to avoid serious damage to the vehicle.
- The recovery agent must shift the vehicle to N before recovery commences.
- Call 1-877-503-0840 to connect with an operations team member regarding Roadside Assistance.

NOTE: If the 12V battery does not have power, the car cannot be put in tow mode or shifted into N. In this case, the 12V battery must be jump-started before the car can be towed.



NOTE: In emergency situations (e.g. if unable to contact Waymo), use appropriate means to move the vehicle from the roadway, though sensor damage will likely occur.

Accessing Vehicle Data

Waymo may provide data to law enforcement officials in response to proper legal process (e.g. search warrant, subpoena, etc.). Law enforcement officials should email their request and legal documents to:

waymolawenforcement@google.com



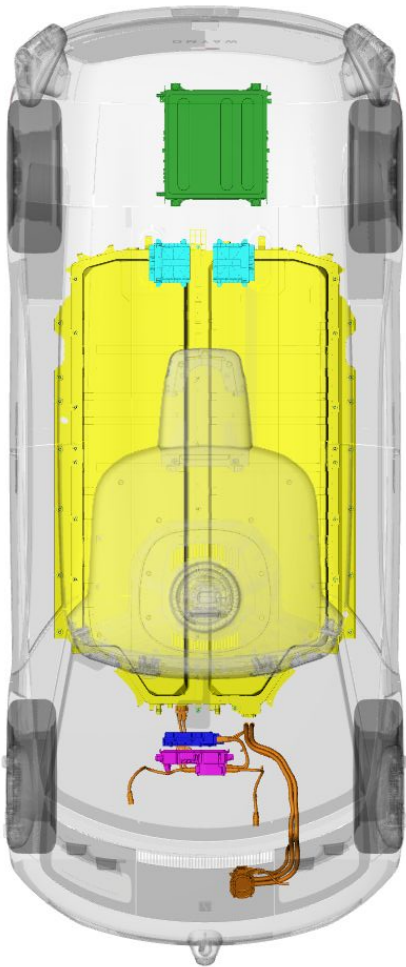
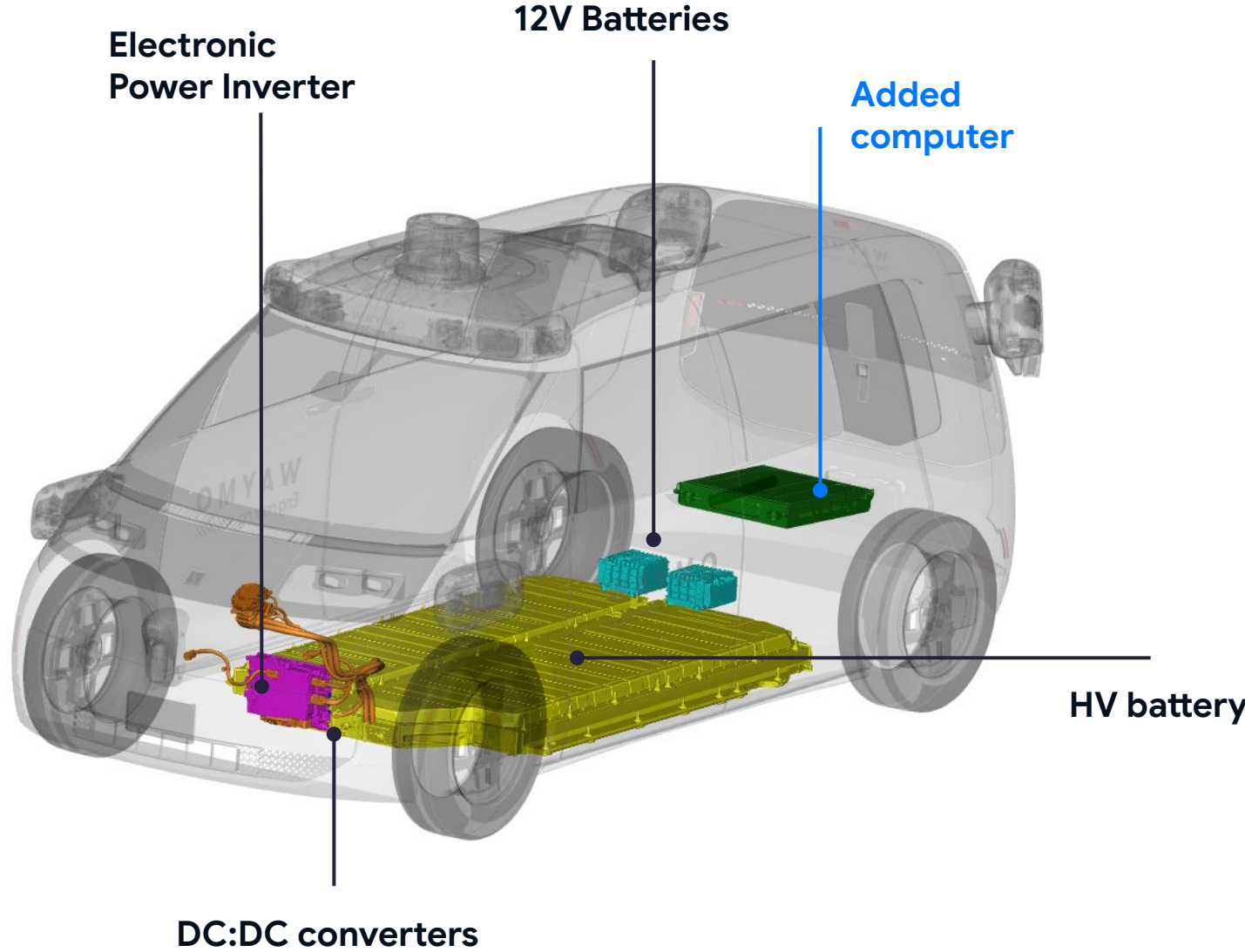
Waymo Fully Autonomous
Ojai

Vehicle systems safety considerations

WAYMO



Vehicle systems overview



12V battery

Electronic power inverter

DC:DC converter

High voltage cables

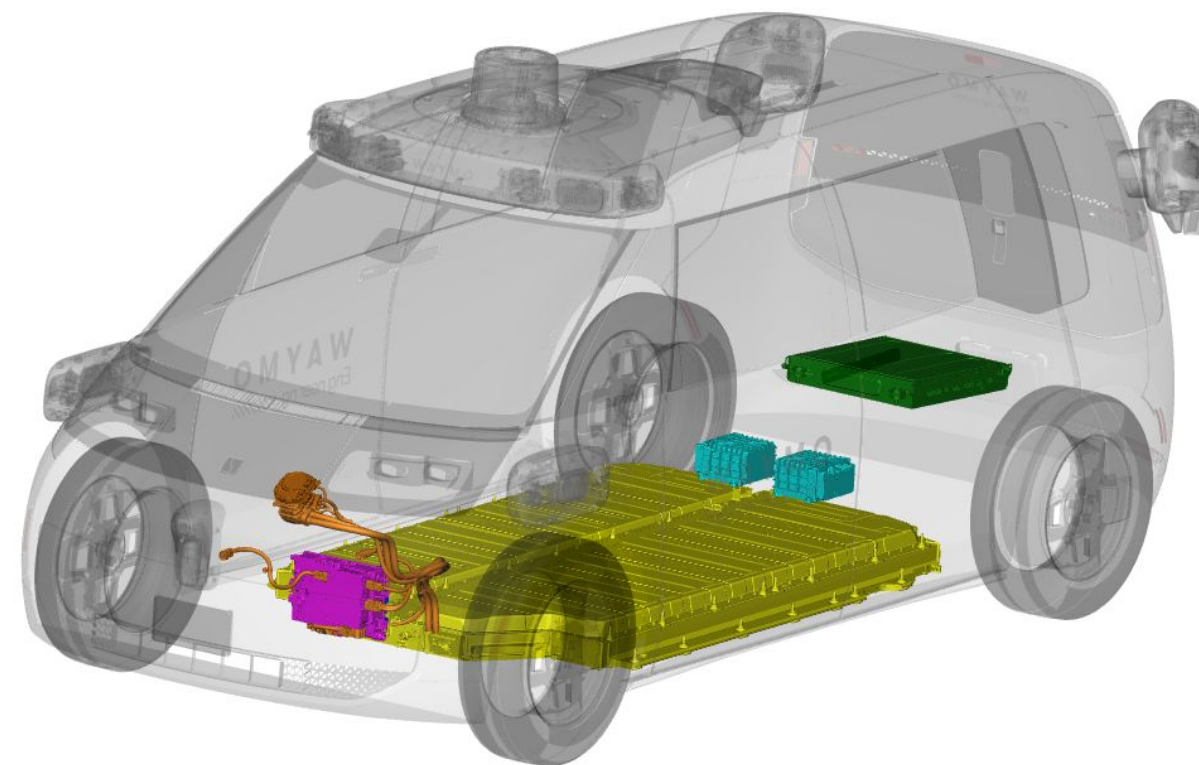
High voltage battery

Added computer

Electrical system overview

The Ojai electrical system includes:

- A high voltage (HV) **battery pack** along the bottom of the vehicle.
- An **electronic power inverter** provides power to the single Drive Unit.
- There are **two independent 12V busses**. Each of them powers ADS components and base vehicle components. Each independent bus has:
 - a **DC:DC converter** (under the hood).
 - a **12V battery** (under the rear seats).



12V battery

Electronic power inverter

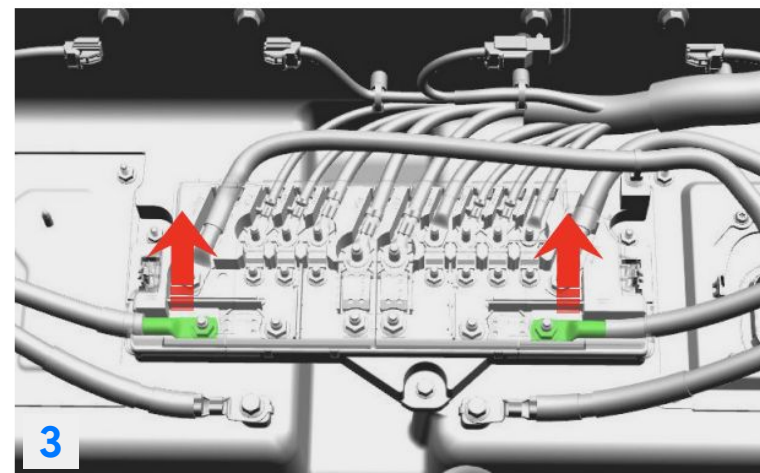
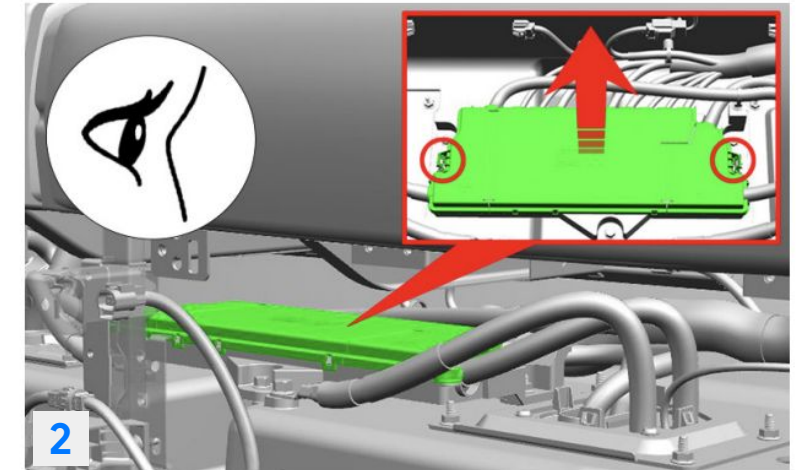
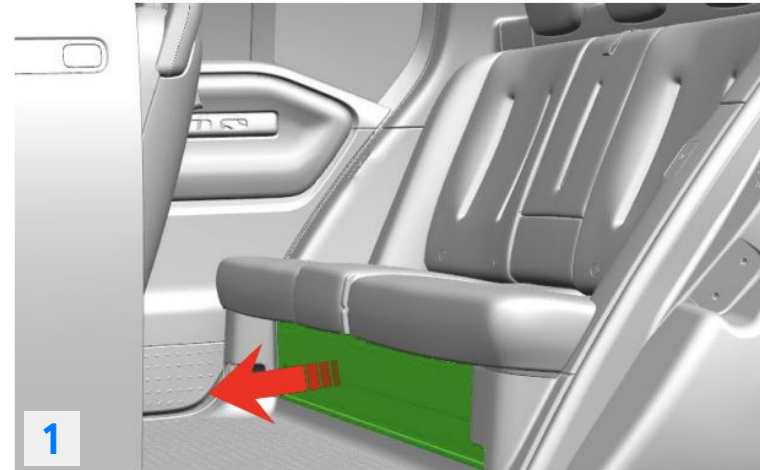
DC:DC converter

High voltage cables

High voltage battery

Disconnecting the 12V batteries

1. Remove the front cover under the rear seats.
2. Remove the access cover by pulling it upward to release the clips that hold it in place.
3. Disconnect both 12V batteries.



Always assume the vehicle is powered, even if it is silent! Make sure that the vehicle is immobilized and the propulsion system is deactivated. Never touch, cut, or open any orange high voltage power cable or high voltage component. In case of a collision with seat belt pretensioner activation / airbag deployment, the high voltage system will be disabled automatically. The restraint systems are still active.

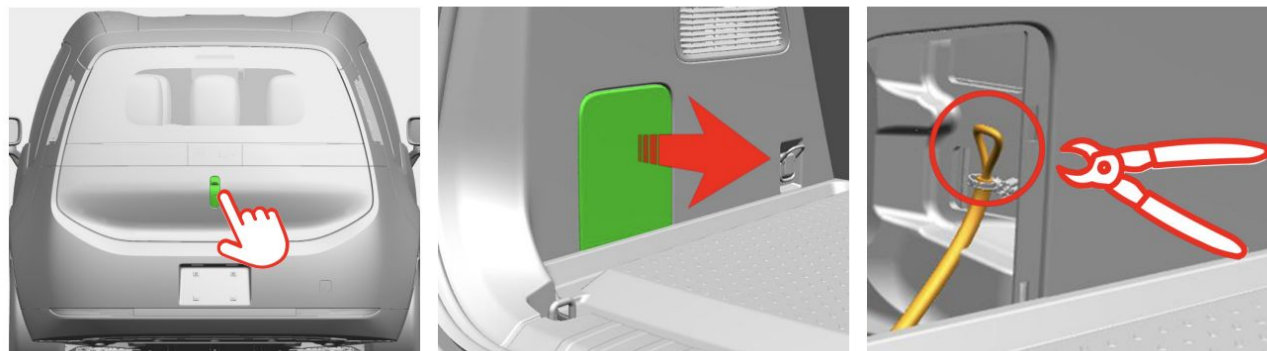


It takes approximately 2 minutes for the electrical charge stored in the capacitor to discharge. After the high voltage has been switched off, take care to avoid short circuits.

Disconnecting the HV battery

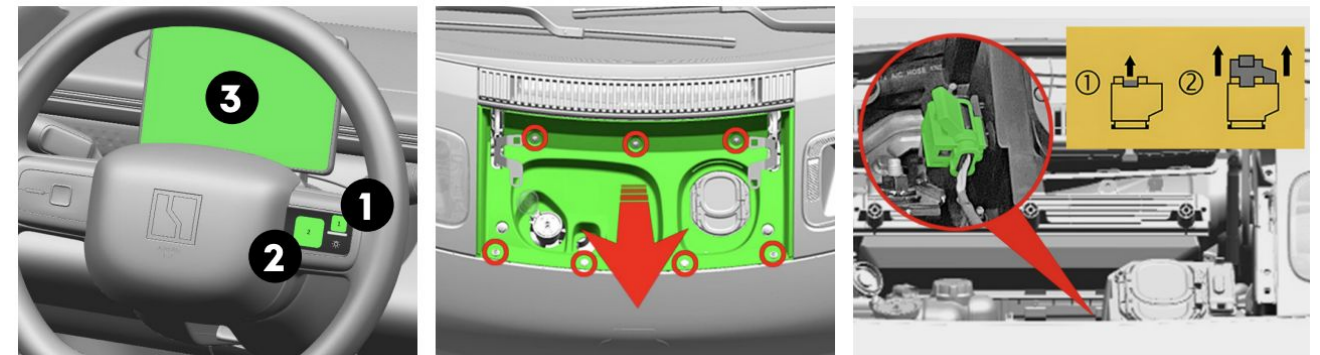
Method 1

1. Open the trunk (see page 22).
2. Remove the access cover by pulling it to release the clips that hold it in place.
3. Cut the cable according to the cutting label, to interrupt the circuit of the high voltage system.



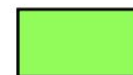
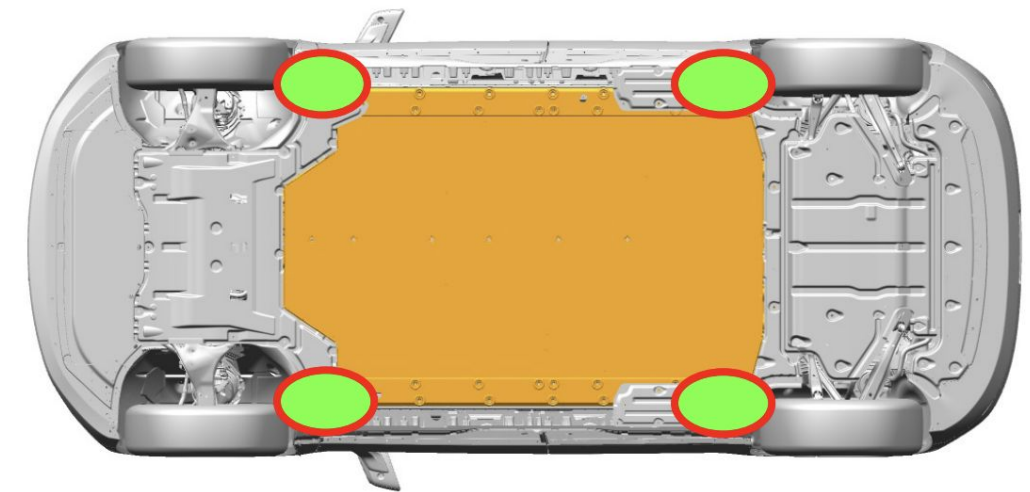
Method 2

1. Open the hood (see page 23).
2. Remove the front compartment plastic cover (**tools required**: flat screwdriver and Torx T30 bit).
3. Use the Service/Emergency disconnect connector.



Prevent vehicle roll away

- The vehicle may roll if the parking brake not activated. The road wheels should be chocked to prevent unexpected movement.
- Vehicle lifting and jacking points can be found behind the sill trims as shown in the illustration.
- The jack or lift support must be positioned centrally on the locations shown to provide a safe vehicle weight distribution and avoid vehicle damage.



Appropriate lifting points



High voltage battery



Make sure that no contact is made between the lifting equipment and the high voltage battery or any other high voltage component.

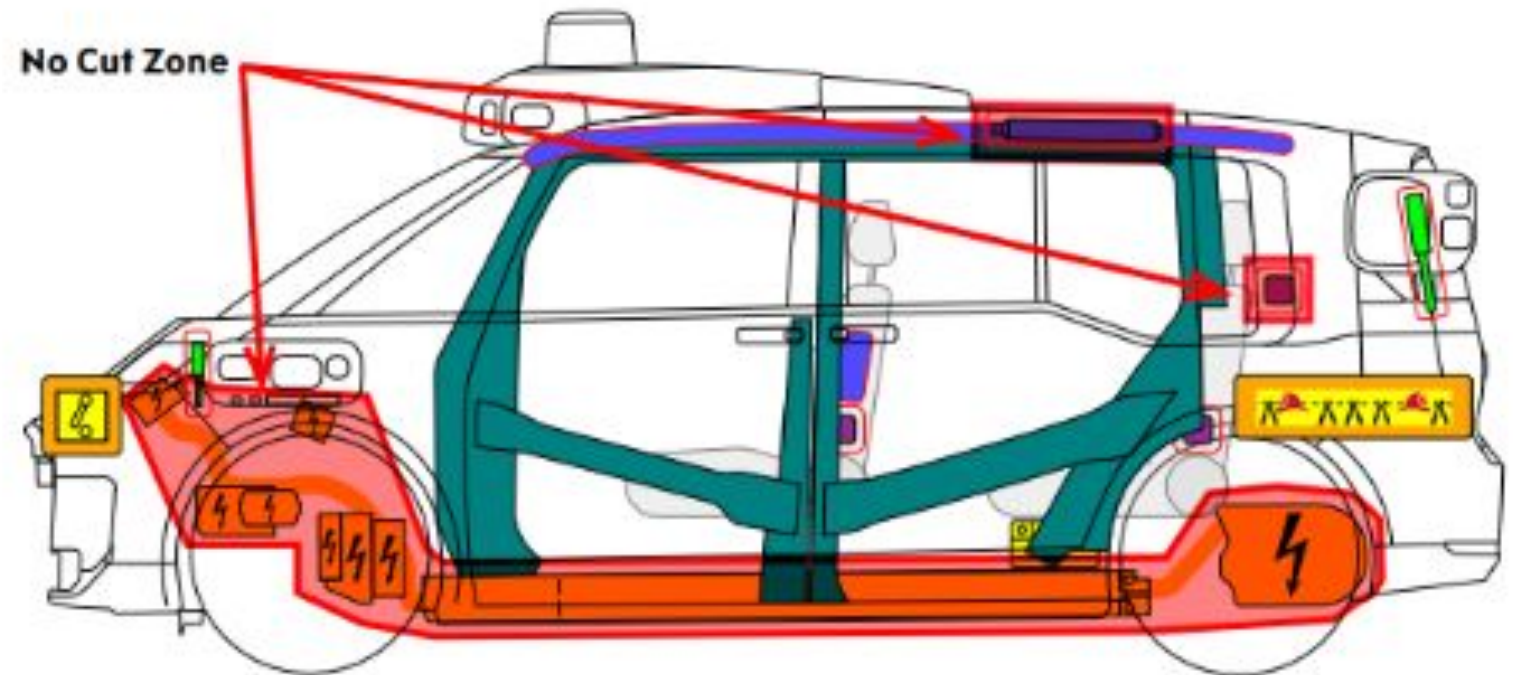


Never touch, cut, or open any orange high voltage power cable or high voltage component. In case of a collision with seat belt pretensioner activation / airbag deployment, the high voltage system will be disabled automatically. The restraint systems are still active. Wear appropriate PPE.

Do Not Cut zones

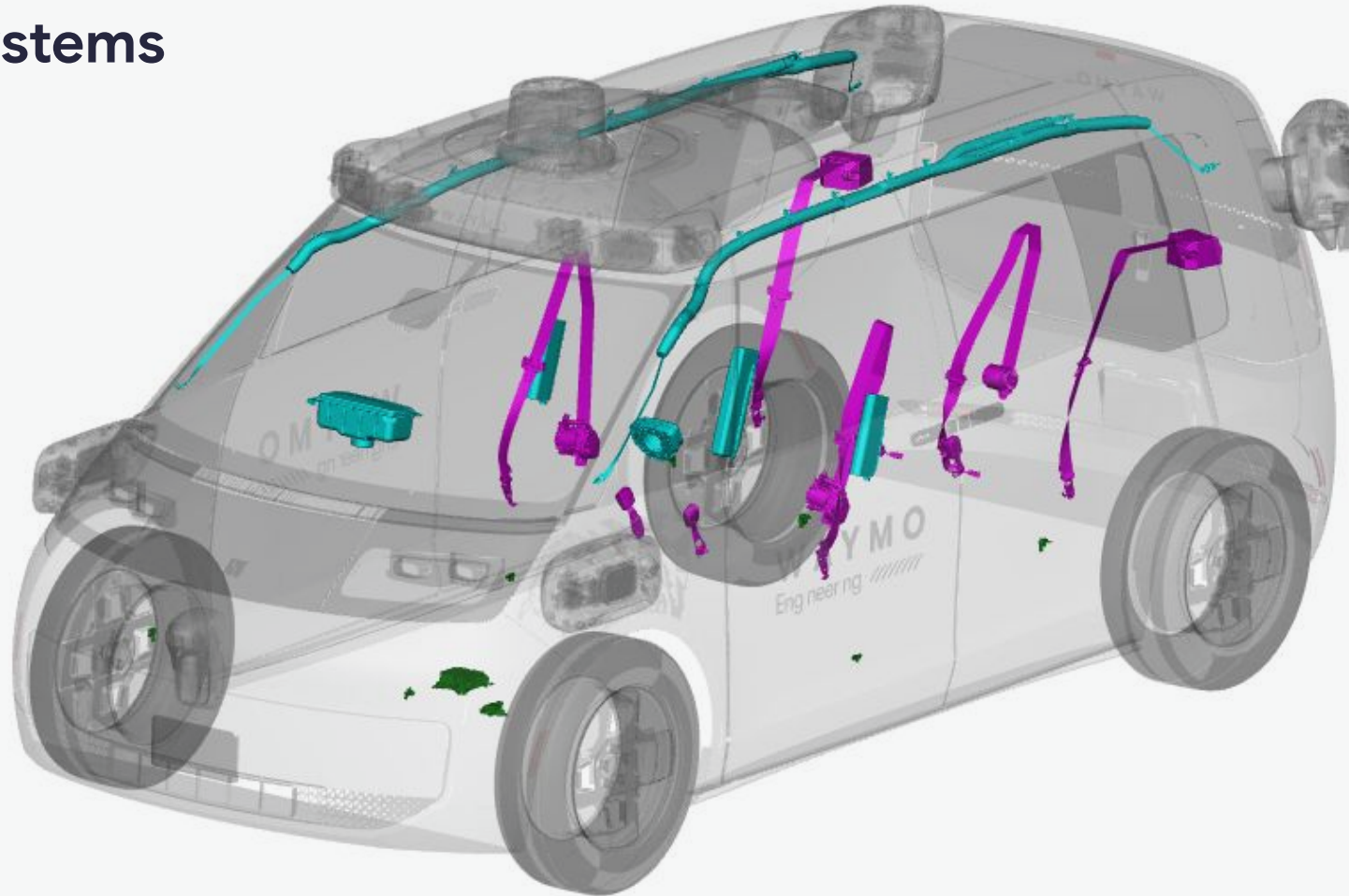
The areas highlighted in **RED** show areas that must not be cut.

- If it is necessary to cut the vehicle body or use hydraulic cutters, etc. to rescue the occupants, do so within the cut zones shown in the image below.
- Do not cut the area near the high-pressure gas generator part of the side curtain airbag on the side of the vehicle (non-cut zone shown in the image).



Passive restraint device considerations

Restraint systems



Airbags

Restraint

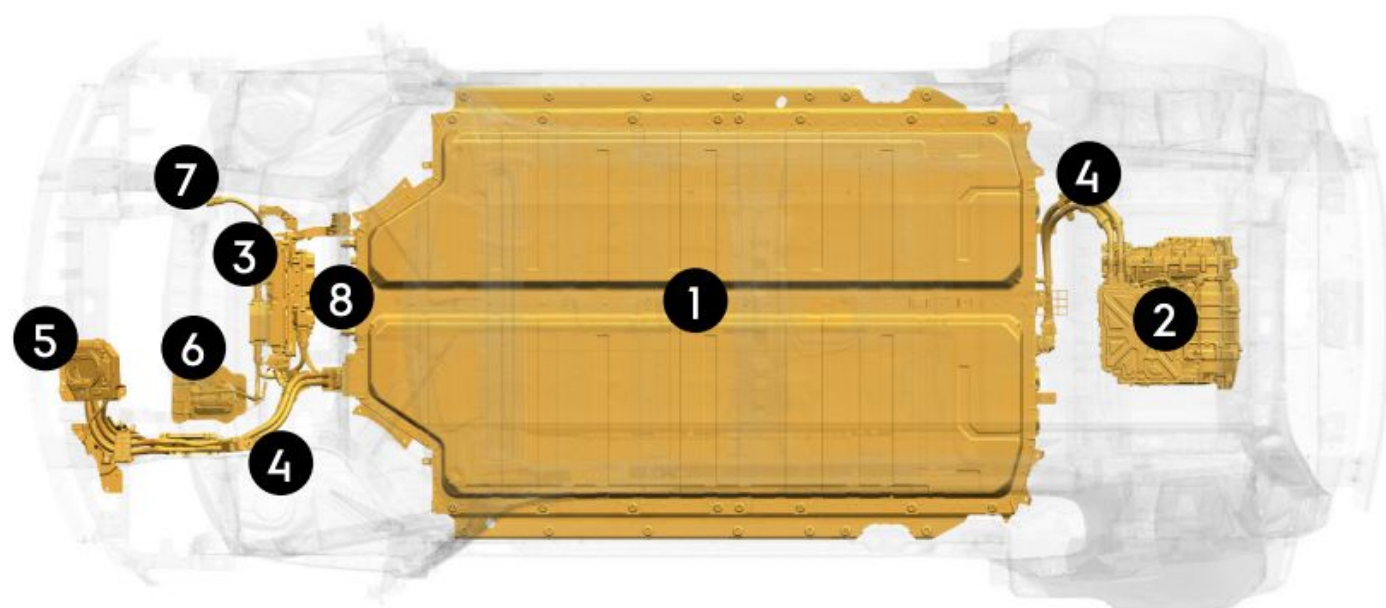
Sensors

Location of High-Voltage Components

If it is necessary to cut the vehicle body or use hydraulic cutters, etc., to rescue occupants, avoid areas near high-voltage cables and lithium-ion batteries on the underside of the vehicle body.



Do not disconnect high-voltage parts. In particular, lithium-ion batteries may cause serious injury or death due to severe burns or electric shock if high voltage parts are exposed by disconnection, even after the high voltage has been interrupted.



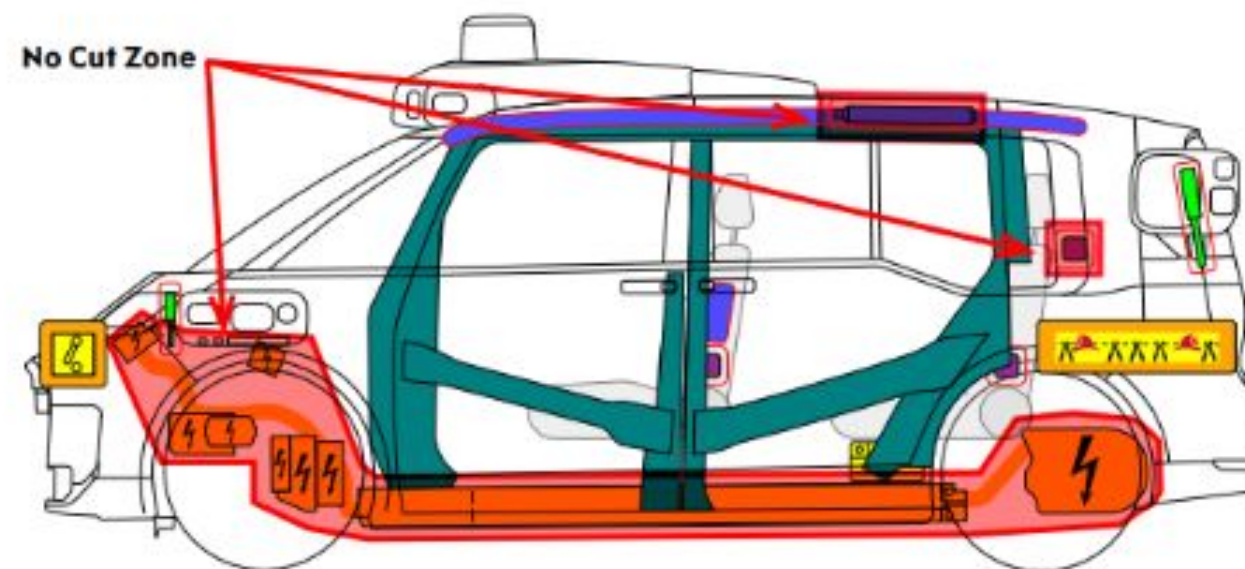
1. Battery pack, high-voltage
2. Electric motor
3. DC/DC converter, 400V/12V
4. High-voltage cable (orange)
5. Charge port
6. HVAC compressor, high-voltage
7. High-voltage coolant heater
8. OBC (On-Board Charger)

High-Voltage Battery Pack

- The Ojai is equipped with a floor-mounted **400V lithium-ion high voltage battery**. The battery is made up of many cells that are liquid cooled with coolant. The coolant will appear blue in color and may leak from the battery pack if the pack has been 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.**
- See page 25 for instructions on how to properly tow the vehicle.



Never touch, cut, or open any orange high voltage power cable or high voltage component. In case of a collision with seat belt pretensioner activation / airbag deployment, the high voltage system will be disabled automatically. The restraint systems are still active. Wear appropriate PPE.



The battery assembly cover should never be breached or removed under any circumstances, including fire. Doing so might result in severe electrical burns, shocks, or electrocution.



In the event of a battery breach, failure or fire, leave the area immediately and contact 911. All materials, liquids and vapors released from the Ojai HV battery should be considered hazardous.

Additional information in case of a fire

Small vehicle fires that do not involve the High Voltage (HV) system can be treated with normal firefighting methods.

An Electric Vehicle (EV) battery involved in a fire, or exposed to high heat levels, will release toxic vapors.

These vapors include:

- Sulfuric acid
 - Oxides of carbon
 - Nickel
 - Lithium
 - Copper
 - Cobalt
- Responders should always protect themselves with **Personal Protective Equipment (PPE)**, including a **Self-Contained Breathing Apparatus (SCBA)**, and take appropriate measures to protect people downwind from the incident.
 - A damaged EV battery can create rapid heating of the battery modules. If you notice smoke coming from the EV battery or surrounding components assume the vehicle **presents imminent safety risk** and contact emergency services for further assistance.
 - Areas exposed to fire or high heat must be treated using high volumes of water, **DO NOT** attempt to extinguish a HV system fire without sufficient water supply. Wait for the correct emergency services if required.
 - Battery fires can take up to 24 hours to extinguish. Consider allowing the battery to burn while protecting the surrounding areas.

Additional information for fully or partially submerged vehicles

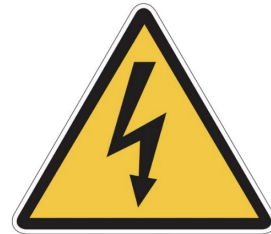
- If possible, remove the vehicle from the water and continue with the deactivation procedure for this vehicle.
- If water enters the high voltage battery, hydrogen gas may be generated. When seawater enters, a large amount of hydrogen gas is generated by rapid electrolysis due to salinity, which may cause a fire.



Responders should always protect themselves with Personal Protective Equipment (PPE), including a Self-Contained Breathing Apparatus (SCBA), and take appropriate measures to protect civilians downwind from the incident.

Hazards

High voltage



There is HV DC in the battery and associated components. AC power may be present on the inverter and traction motor. Both should be considered hazardous.

HV cables are ORANGE in color.

Anything at the end of an orange cable should be treated as hazardous.

WARNING! DO NOT cut HV cables, battery case or associated components.

Suitable PPE shall be worn.

Fire



Fire in the battery is very unlikely, and the battery is contained in a sealed metal enclosure underneath the vehicle. It will not normally be possible to get extinguishing media into the battery compartment.

If the vehicle is on fire, remove occupants from the vehicle, evacuate the area and call 911 to report an electric vehicle fire.

CAUTION! In the case of fire, HV fumes are likely to escape from the battery – keep a safe distance from vehicle.