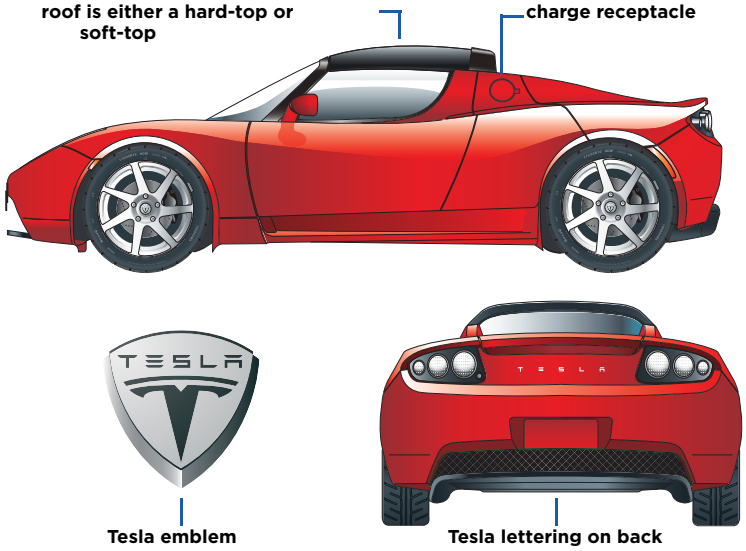
Emergency Responder Guide

This guide is designed to assist emergency responders effectively handle a Tesla Roadster in emergency situations. The information in this guide will allow you to respond to Tesla Roadsters in a safe manner.

Tesla Roadster

Contents



About the Tesla Roadster

The Tesla Roadster is a high-performance pure electric vehicle. It is powered by electricity stored in a large high-voltage lithium-ion Battery Pack located behind the seats. The Roadster has been designed with many features that provide you with safe access to the vehicle under various conditions. However, when approaching a high-voltage vehicle in a rescue or recovery situation, you must ASSUME THE ROADSTER HAS ELECTRICAL POWER.

Distinguishing features

The Tesla Roadster is unique and can easily be identified. A Tesla emblem is located in the front of the Roadster and in the center of each wheel. Tesla lettering is located across the back body of the Roadster, between the tail lights. An electric charge receptacle is located to the right of the driver's door—this receptacle closely resembles a fuel door in a conventional vehicle.

Determining model year

An Emergency Disconnect cable is located either in the trunk area (on a 2008 Roadster) or under the hood (on a Roadster 2).

Note: Subsequent to the 2008 Roadster, the Tesla Roadster is no longer differentiated by model year.

If you are in a situation where extensive effort is required to open the trunk and hood, you may need to determine the Roadster's model year to know where to find the Emergency Disconnect cable.

To determine the Roadster's model year, look at the 10th character of the Vehicle Identification Number (VIN). On a 2008 Roadster, the 10th character of the Vehicle Identification Number (VIN) will be the number "8," whereas on a Roadster 2, the 10th character will be the letter "A."

You can find the Vehicle Identification Number (VIN) in multiple locations:

- Top of Dashboard - the VIN is stamped on a plate which is visible through the lowest part of the drivers side of the windshield.
- Chassis - the VIN is stamped on the Roadster's chassis, and is visible behind the passenger side front wheel.
- Underside of Dashboard - a VIN label is attached to the underside of the dashboard.

Four main components

The Roadster's four main components:

- Battery Pack
- Chassis
- Motor
- Power Electronics Module

These components are illustrated on this page.

Battery Pack

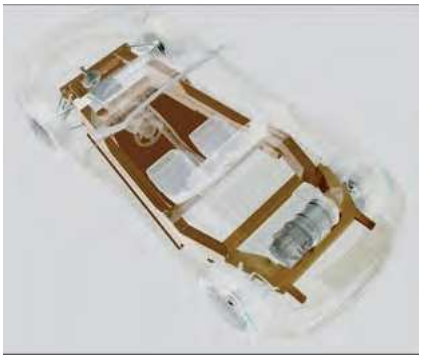
The Battery Pack, located behind the seats in the trunk area, is housed in a black enclosure and consists of several thousand lithium-ion cells. The Battery Pack is monitored by a safety system that responds to an emergency by automatically disconnecting the Battery Pack and shutting down high voltage power to the Roadster and all its electric cables.

WARNING: Due to high voltage risks, never cut or penetrate the Battery Pack, even after you have cut the Emergency Disconnect cable.▲

The Tesla Roadster's Battery Pack is a substantial energy source. For details, see The Roadster's Battery Pack on page 9.

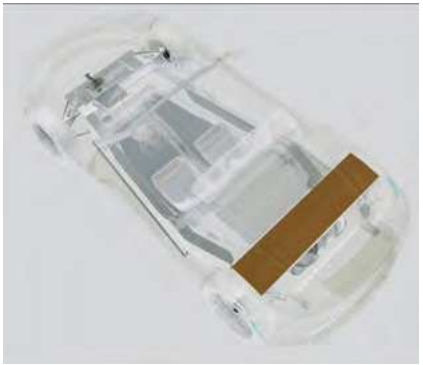
Chassis

The Roadster's chassis is made of extruded aluminum.

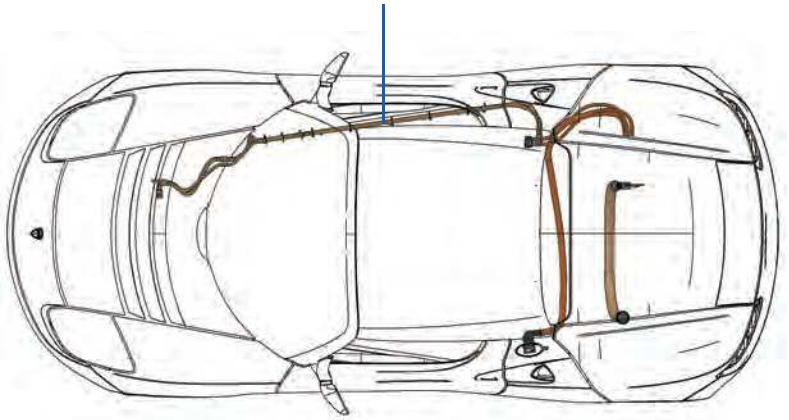


Motor and Power Electronics Module (PEM)

The Roadster's electric motor is located behind the Battery Pack, under the trunk area. The Power Electronics Module (PEM) is located directly above the motor.



High voltage wiring runs under the passenger side of the Roadster. It is connected to an HVAC (Heating, Ventilation, and Air Conditioning) controller. High voltage wiring also runs from the Battery Pack to the PEM and the Motor.



High voltage

All high voltage cables and components enclosed in orange-colored insulation or wrapping. Never touch, open, or cut any orange-colored cable or any component connected to this cable without disabling the high voltage system by cutting the Emergency Disconnect cable as described on pages 6 and 7.

WARNING: Failure to disable the high voltage electrical systems (by cutting the Emergency Disconnect cable) before performing emergency response procedures may result in serious injury or death from electrical shock.▲

The Roadster makes no noise

Always remove the key. The Tesla Roadster makes virtually no noise when the drive system is powered on and the vehicle is stopped. Never assume the Roadster is off simply because it is silent and the key is in the off position.

Airbags and other SRS components

The Tesla Roadster features a DC to DC converter. Turning off the car and removing the key prevents the car from driving but does not kill power to the airbags and other SRS (Seating and Restraint System) components. The only way to completely disable these systems is by cutting the Emergency Disconnect cables as described on pages 6 and 7.

Do not use water if the Roadster is plugged in

If the Roadster is connected to a charging device, DO NOT use water to extinguish a vehicle fire. Exercise the same precautions used when AC power supply potential exists.

If the Roadster is NOT connected to a charging device, Battery Pack voltage will not follow water back up a fire hose.

For more detail on fire fighting measures, see Fire fighting measures on page 9.

To stop all current flow

Cutting the 12V Emergency Disconnect cable stops all current flow through high-voltage cables. It also stops all current flow to the Roadster's Seating and Restraint Systems (SRS), which include the airbags and seat belt tensioners.

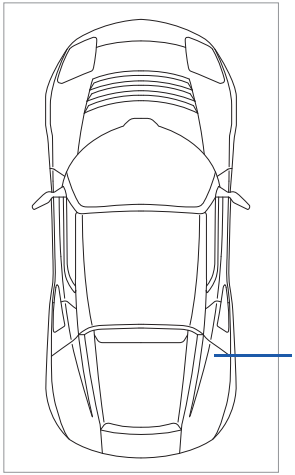
Before attempting to cut the Roadster to rescue occupants, you should reduce the potential for current to flow from the high voltage Battery Pack by shutting the Roadster off and then cutting the Emergency Disconnect cable.

On the 2008 Tesla Roadster, the Emergency Disconnect cable is located under the trunk, on the passenger side of the vehicle.

WARNING: High voltage cables and components may remain powered for up to 10 seconds after cutting the Emergency Disconnect cable. The Seating and Restraint Systems (airbags and seat belt tensioners) may remain powered for up to 30 seconds.▲

Follow these instructions to cut the Emergency Disconnect cable:

1. Press trunk release button or turn the key counter-clockwise to open the trunk.
2. Remove the cover labeled "EMERGENCY SRS DISABLE."
3. Cut the cable where indicated.



The emergency disconnect is located under the trunk above the rear passenger wheel

Press the trunk release button or insert the key and turn counter- clockwise to open the trunk

Remove cover and cut where indicated

To stop all current flow

Cutting the 12V Emergency Disconnect cable stops all current flow through high-voltage cables. It also stops all current flow to the Roadster's Seating and Restraint Systems (SRS), which include the airbags and seat belt tensioners.

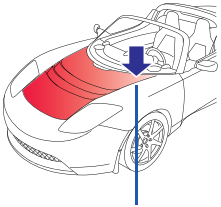
Before attempting to cut the Roadster to rescue occupants, you should reduce the potential for current to flow from the high voltage Battery Pack by shutting the Roadster off and then cutting the Emergency Disconnect cable.

On the Roadster 2, the Emergency Disconnect cable is located under the hood, on the driver side of the vehicle.

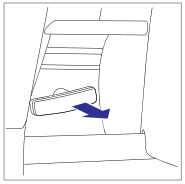
WARNING: High voltage cables and components may remain powered for up to 10 seconds after cutting the emergency disconnect. The Seating and Restraint Systems (airbags and seat belt tensioners) may remain powered for up to 30 seconds.▲

Follow these instructions to cut the emergency disconnect cable:

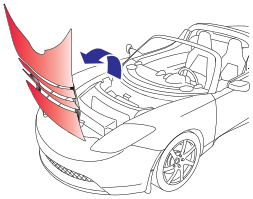
1. Pull the hood release handle located to the left of the steering column.
2. Raise the hood and if possible, insert the hood stay into the slot.
3. Cut the cable where indicated.

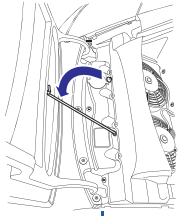


Emergency disconnect is located under the hood



Pull the hood release handle





Insert the hood stay

Cut where indicated

Note: The appearance of the interior will vary depending on model year, but airbags are in the same location for all models.

Two airbags

The airbag for the driver is located in the padded hub of the steering wheel. The airbag for the passenger is located on the dashboard. These are indicated by the word AIRBAG on the trim.

Exercise standard precautions when working in close proximity to undeployed airbags.

Cutting the emergency disconnect stops all current flow to the airbags. See pages 6 and 7.

Description and identification

The Tesla Roadster's Battery Pack, also referred to as the ESS (Energy Storage System) is comprised of several thousand consumer-grade hemetically-sealed lithium-ion cells.

Battery Pack technology	Lithium-ion
Nominal voltage	366.3V
Maximum voltage	420V
Maximum weight	1200 lbs
Length	43.3 in (110 cm)
Width	32.3 in (82 cm)
Height	27.6 in (70cm)
Manufacturer	Tesla Motors USA 1050 Bing Street San Carlos, CA 94070 For service issues, call 1-877-79TESLA (1-877-798-3752).
Emergency Contact (USA)	Chemtrec: 1-800-424-9300
Emergency Contact (International)	Chemtrec: 1-703-527-3887 (collect calls accept3ed)

Substantial electrical charge

WARNING: Due to high voltage risks, never cut or penetrate the Battery Pack, even after you have cut the Emergency Disconnect. If the Battery Pack has been visibly damaged or its enclosure compromised, practice appropriate high voltage preventative measures until the danger has been assessed and, if necessary, dissipated.

Do not short circuit, puncture, incinerate, crush, immerse, force discharge, or expose the Battery Pack to temperatures above 140°F (60°C).

Under normal conditions, the electrode materials and liquid electrolyte that the battery cells contain are not exposed, provided the Battery Pack integrity is maintained and seals remain intact. Risk of exposure will occur only in cases of abuse (mechanical, thermal, electrical). For example, an internal or external short circuit can cause significant overheating and provide an ignition source resulting in fire, including surrounding materials.

Fire fighting measures

If fire or smoke is observed when the Tesla Roadster is connected to a charging source, immediately shut off power to the charging source.

In the case of burning lithium-ion fires, generously and continuously flood the area with water. The water may not extinguish the fire, but will cool the adjacent battery cells, control the spread of the fire, and prevent the fire from being re-ignited.

Firefighters should wear self-contained breathing apparatus. Battery cells may emit potentially hazardous organic vapors if exposed to excessive heat, fire, or over-voltage conditions. These vapors include HF_2 oxides of carbon, aluminum, lithium, copper, and cobalt. Additionally, volatile phosphorous pentafluoride may form at temperatures above 230^{o} Fahrenheit.

Battery first aid

Under normal conditions, the Tesla Roadster's battery cells are hermetically sealed. Contents of an open (broken) constituent battery cell can cause skin irritation and/or chemical burns.

If materials from ruptured or otherwise damaged battery cells contact the skin, flush immediately with water and wash affected area with soap and water. For eye contact, flush with significant amounts of water for 15 minutes and see a physician immediately. Avoid inhaling vented gases. If a chemical burn occurs or if irritation persists, see a physician.

Battery disposal

The Tesla Roadster's lithium-ion batteries do not contain heavy metals such as lead, cadmium, or mercury. Therefore, they are

exempt from hazardous waste disposal standards in the U.S., as defined in the Universal Waste Regulations.

However, the battery cells do contain recyclable materials and Tesla Motors encourages recycling whenever possible. For information about recycling, contact Tesla Motors. If disposing without contacting Tesla, contact local, state, or federal authorities for information about the appropriate methods for disposal and recycling. Disposal regulations vary depending on location.

Composition and information on Battery materials

The batteries in the Tesla Roadster consist of hemetically sealed lithium-ion cells that contain various chemicals and materials as detailed in the following table.

Note: Under normal conditions, there is no risk of exposure. The cells do not contain metallic lithium.

Materials/Ingredients	**Approx. % by weight**	**CAS No.***	**OSHA PEL****	**ACGIH*** (TLV****)**
$LiCoO_2$ (Lithium Cobalt Oxide)	25-35	12190-79-3	0.1 mg/m^3 TWA (as cobalt)	0.02 mg/m^3 TWA (as cobalt)
Graphite	7-10	7782-42-5	5 mg/m^3 TWA (total dust) 15 mg/m^3 TWA (respirable fraction)	2 mg/m^3 TWA (respirable fraction)
Hexafluoroprophylene-vinylidene fluoride Copolymer	3-15	9011-17-0	None established	None established
Lithium Hexofluorophosphate	0-5	21324-40-3	None established	None established
Acetylene Black	0-2	1333-86-4	3.5 mg/m^3 TWA (as carbon black)	3.5 mg/m^3 TWA (as carbon black)
Dimethyl Carbonate	0-15	616-38-6	None established	None established
Ethyl Methyl Carbonate	0-15	623-53-0	None established	None established
Ethylene Carbonate	0-15	96-49-1	None established	None established

*CAS - Chemical Abstract Service established by the American Chemistry Society, which assigns identifiers (CAS Nc.) to chemicals.

**PEL - Permissible Exposure Limit in the USA for personal exposure to a substance. A PEL is defined by the U.S. Occupational Safety and Health Administration (OSHA).

***ACGIH - American Council of Governmental Industrial Hygienists.

****TLV - Threshold Limit Values are personal exposure limits determined by ACGIH.

Part Number 02-008305-00 Rev AA

MODEL 3

EMERGENCY RESPONSE GUIDE

This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle the fully electric Model 3 in an emergency situation. It describes how to identify Model 3 and provides the locations and descriptions of its high voltage components, airbags, inflation cylinders, seat belt pre-tensioners, and the high strength materials used in its body structure. This guide includes the high voltage disabling procedure and any safety considerations specific to Model 3. Failure to follow recommended practices or procedures can result in serious injury or death.

The high voltage battery is the main energy source. Model 3 does not have a traditional gasoline or diesel engine and therefore does not have a fuel tank. The images in this guide might not match the vehicle you are working on.

IMPORTANT SAFETY INSTRUCTIONS

This document contains important instructions and warnings that must be followed when handling Model 3 in an emergency situation.

NOTE: Images in this document show a left-hand drive (LHD), North American vehicle. Unless otherwise noted, right-hand drive (RHD) vehicles are mirrored.

NOTE: Model 3 is equipped with airbags in North America only.

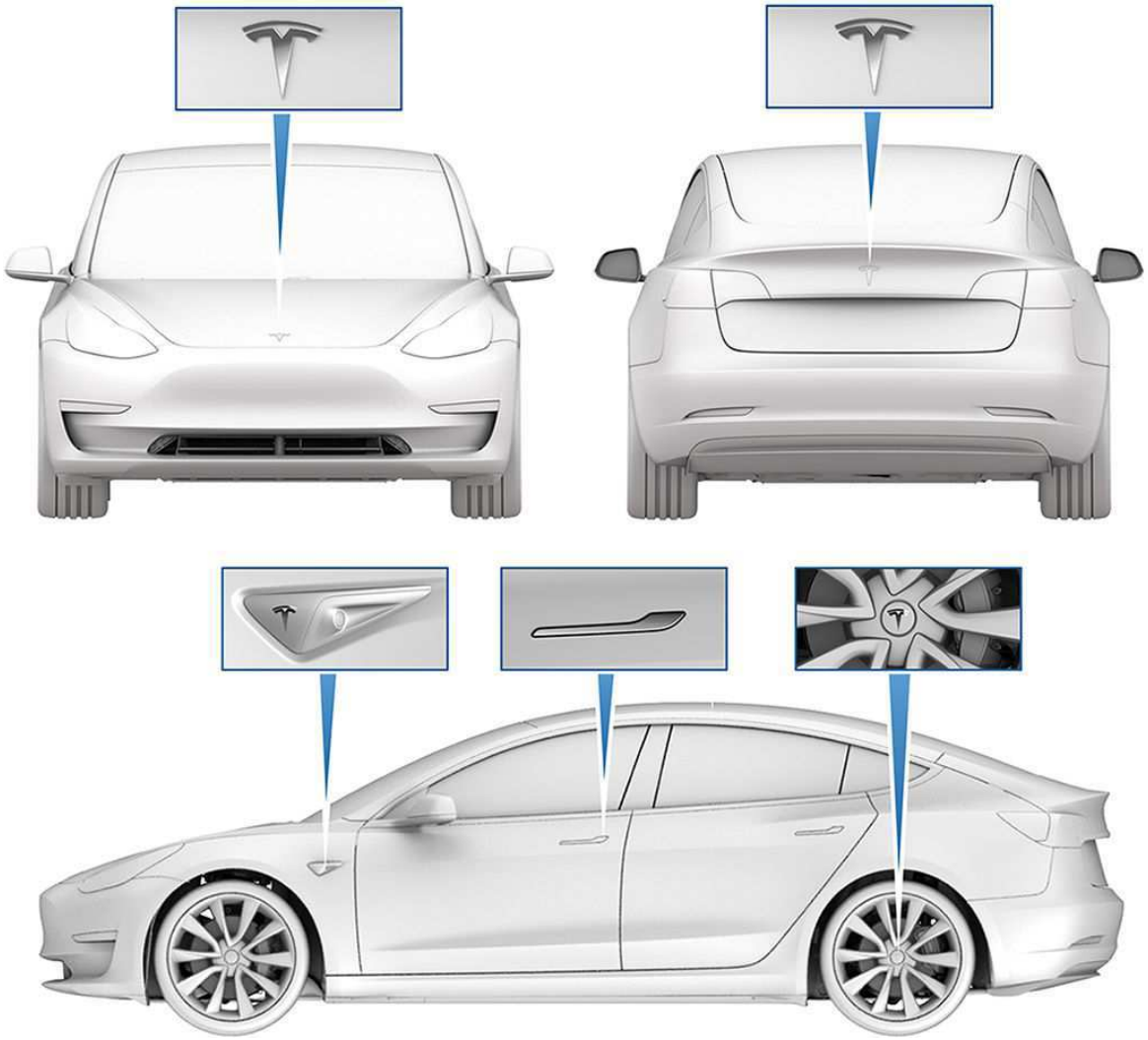
WARNINGS

- **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate personal protective equipment (PPE) when cutting Model 3. Failure to follow these instructions can result in serious injury or death.
- **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:** After deactivation, the high voltage circuit requires 2 minutes to de-energize.
- **Warning:** The supplemental restraint system (SRS) control unit has a backup power supply with a discharge time of approximately ten seconds. Do not touch the SRS control unit within 10 seconds of an airbag or pre-tensioner deployment.
- **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.
- **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a self-contained breathing apparatus (SCBA).
- **Warning:** When cutting the first responder loop, double cut the loop to remove an entire section. This eliminates the risk of the cut wires accidentally reconnecting.
- **Warning:** NEVER TRANSPORT YOUR VEHICLE WITH REAR WHEELS ON THE GROUND. DOING SO CAN LEAD TO SIGNIFICANT DAMAGE AND OVERHEATING. IN RARE CASES EXTREME OVERHEATING MAY CAUSE THE SURROUNDING COMPONENTS TO IGNITE.

BADGING AND DOOR HANDLES

Model 3 can be identified by its Tesla badges and uniquely-shaped door handles.

NOTE: Model 3 may have a "DUAL MOTOR" badge on the RH side of the trunk to indicate that it is a Dual Motor (all-wheel drive) configuration.



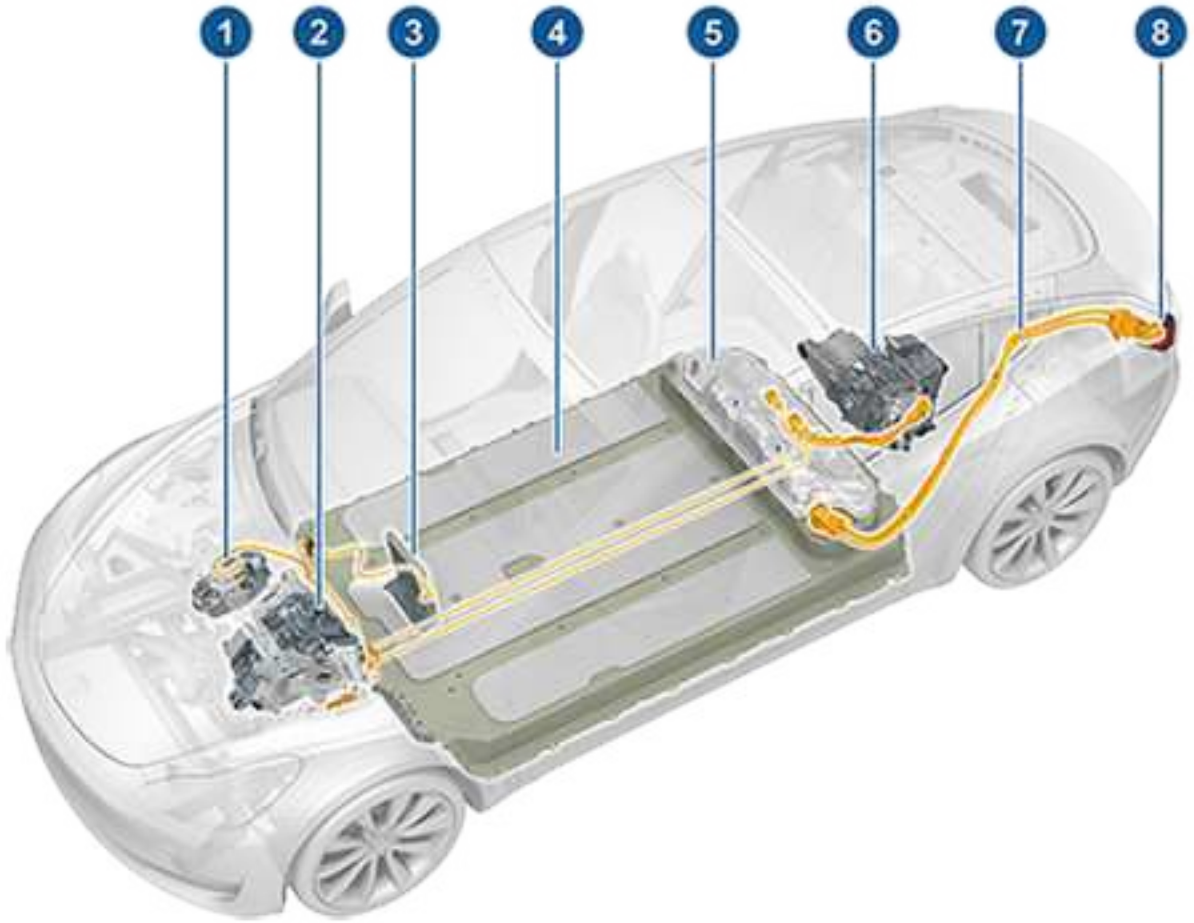
VEHICLE IDENTIFICATION NUMBER (VIN)

Model 3 can be identified by its VIN. Locate the stamped plate on the top of the dashboard by looking through the driver's side of the windshield. Model 3 is identified with a "3" in the 4th alphanumeric position.

TOUCHSCREEN

Model 3 can be identified by its 15 in (38 cm) touchscreen that is mounted in a "landscape" orientation.

HIGH VOLTAGE COMPONENTS

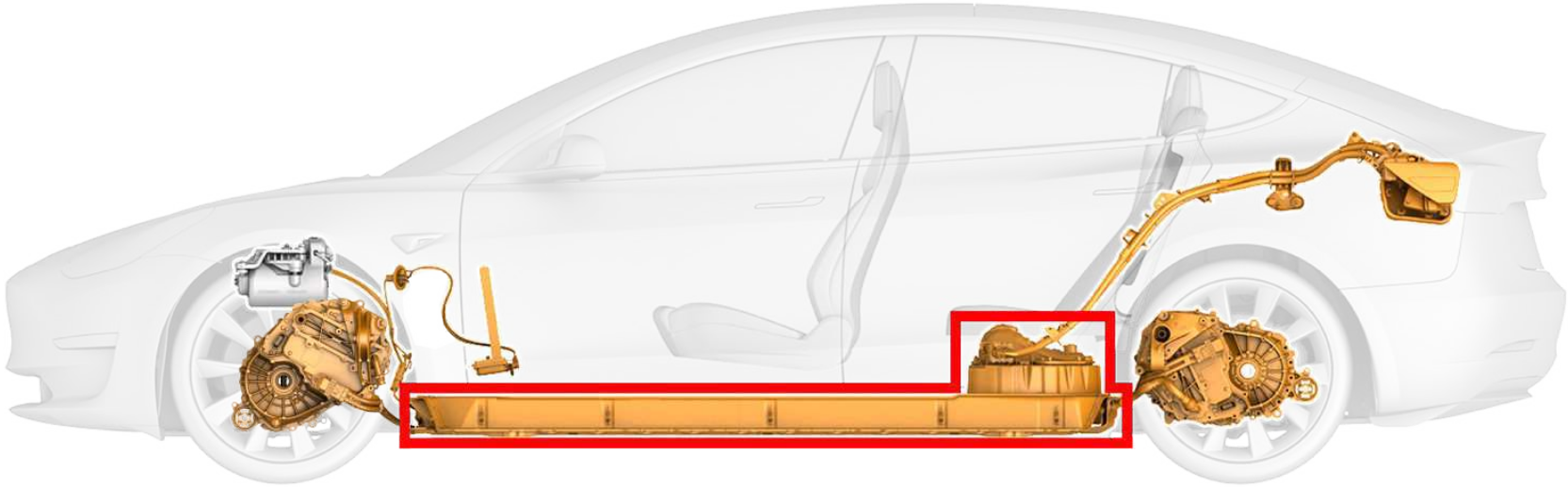


1. A/C Compressor
2. Front Drive Unit (if equipped)
3. Cabin Heater
4. High Voltage Battery
5. High Voltage Battery Service Panel
6. Rear Drive Unit
7. High Voltage Cabling
8. Charge Port

HIGH VOLTAGE BATTERY

Model 3 is equipped with a floor-mounted 400 volt lithium-ion high voltage battery. 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 Lifting the Vehicle on page 23 for instructions on how to properly lift the vehicle.

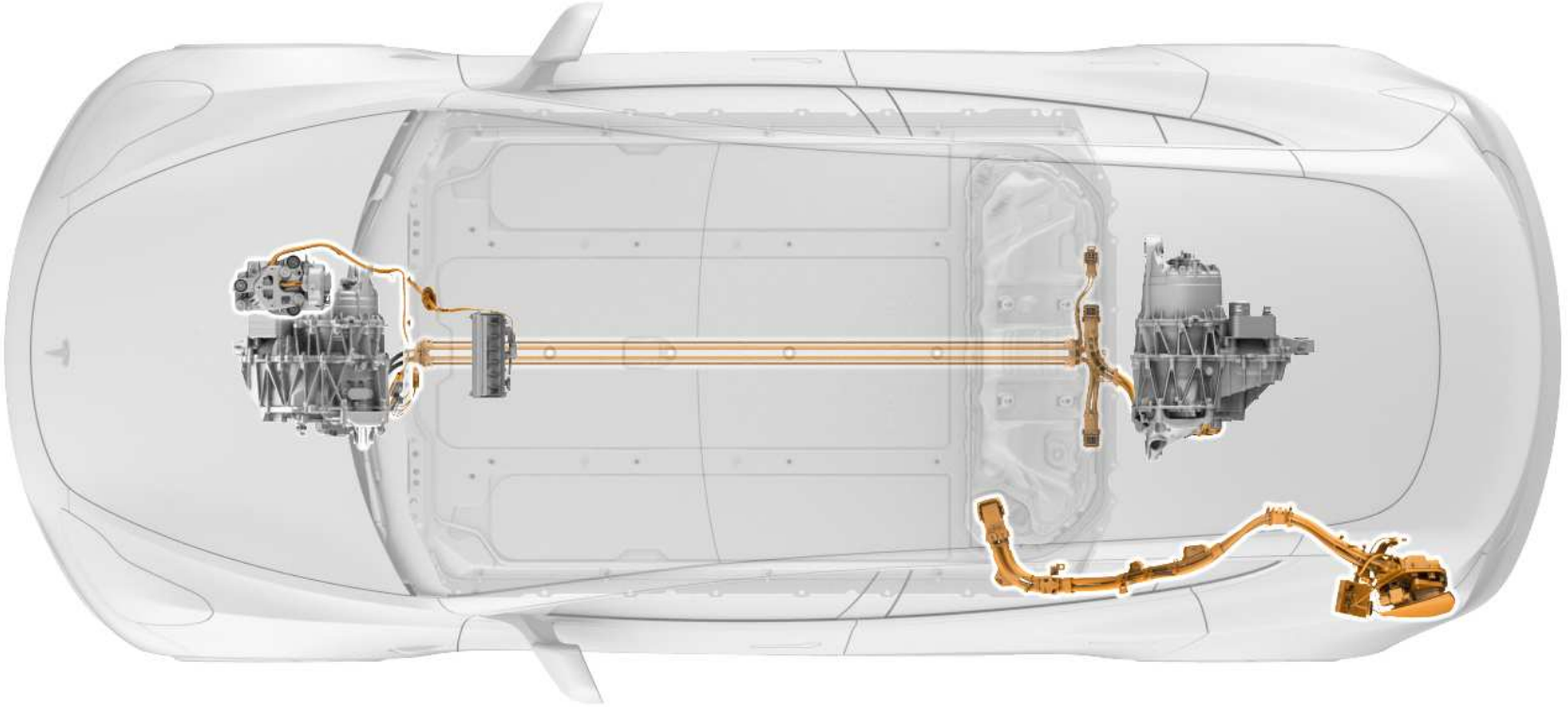
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



HIGH VOLTAGE CABLES

High voltage cables are shown in orange.

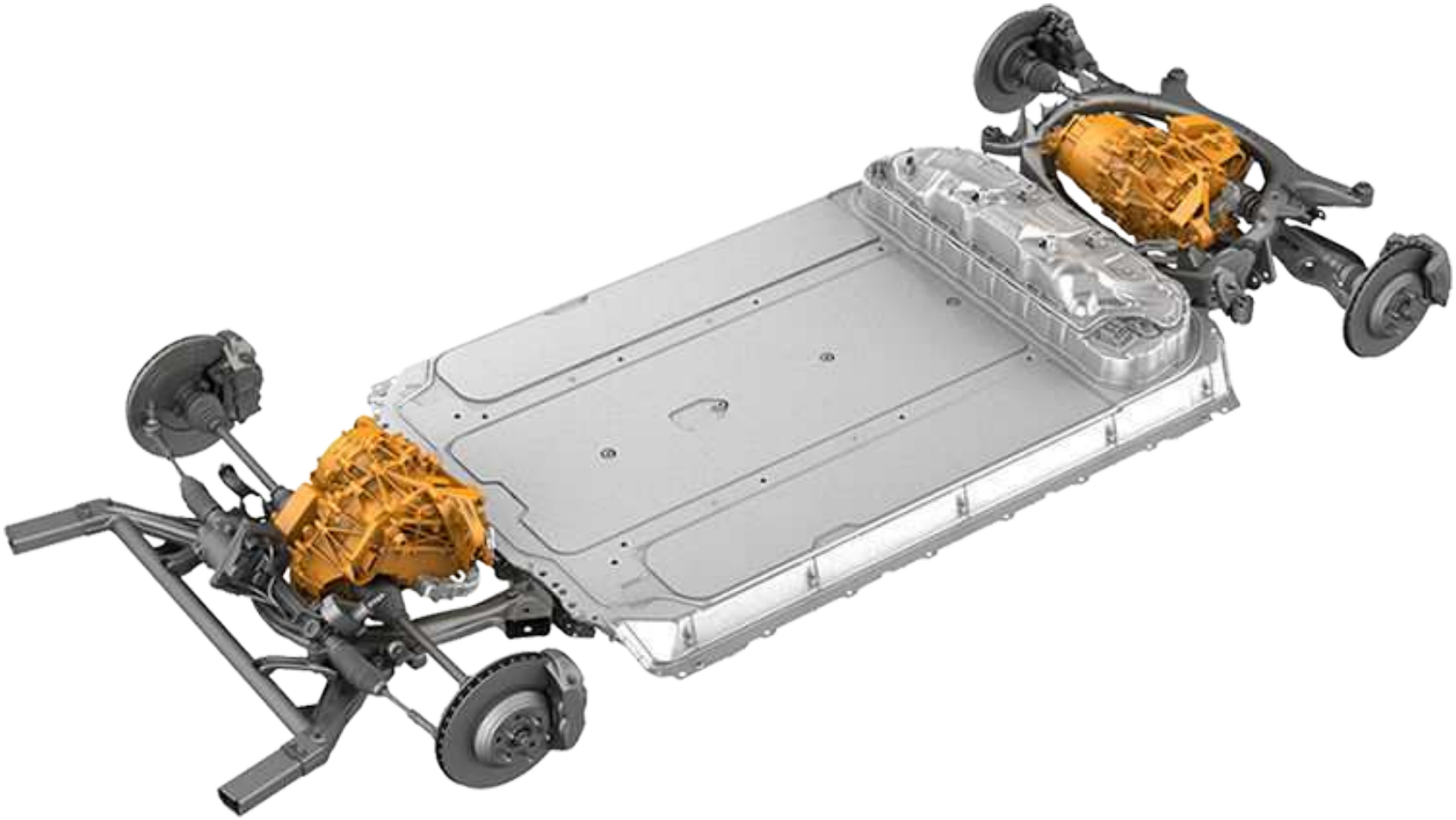
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



DRIVE UNITS

The rear drive unit is located between the rear wheels, and the front drive unit (if equipped) is located between the front wheels. The drive units convert the direct current (DC) from the high voltage battery into 3-phase alternating current (AC) that the drive units use to power the wheels.

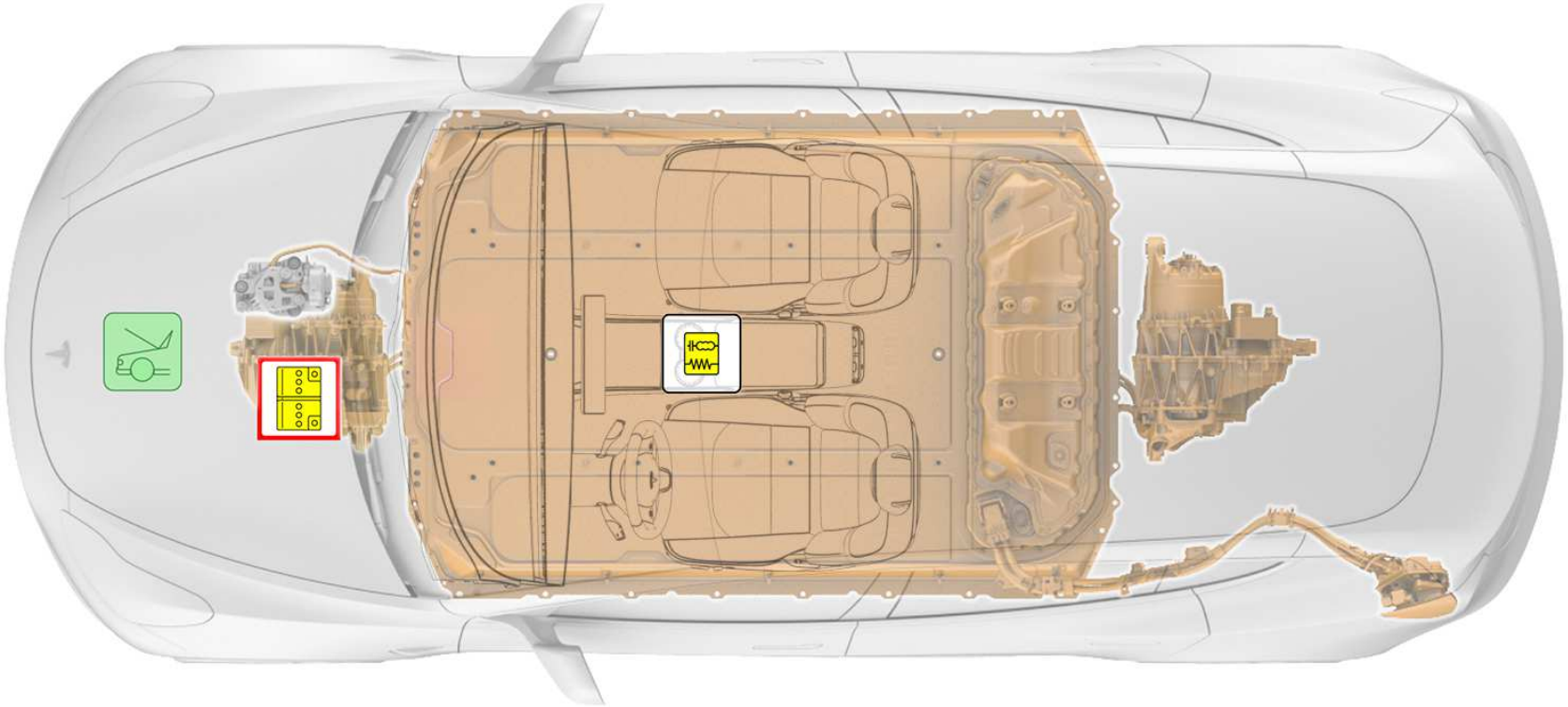
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



12 VOLT BATTERY

In addition to the high voltage system, Model 3 has a low voltage electrical system. Its 12 volt battery operates the SRS, airbags, windows, door locks, touchscreen, and interior and exterior lights. The high voltage system charges the 12 volt battery, and the 12 volt battery supplies power to the high voltage contactors, allowing high voltage current to flow into and out of the high voltage battery. The 12 volt battery, outlined in red, is located under the hood and the plastic access panel.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



CHOCK ALL FOUR WHEELS

Model 3 moves silently, so never assume it is powered off. Drivers can choose a setting that determines whether or not Model 3 will "creep" when a drive gear is selected. If this setting is off, Model 3 may not move unless the accelerator is pressed, even if shifted into Drive or Reverse. However, never assume that Model 3 will not move. Always chock the wheels.

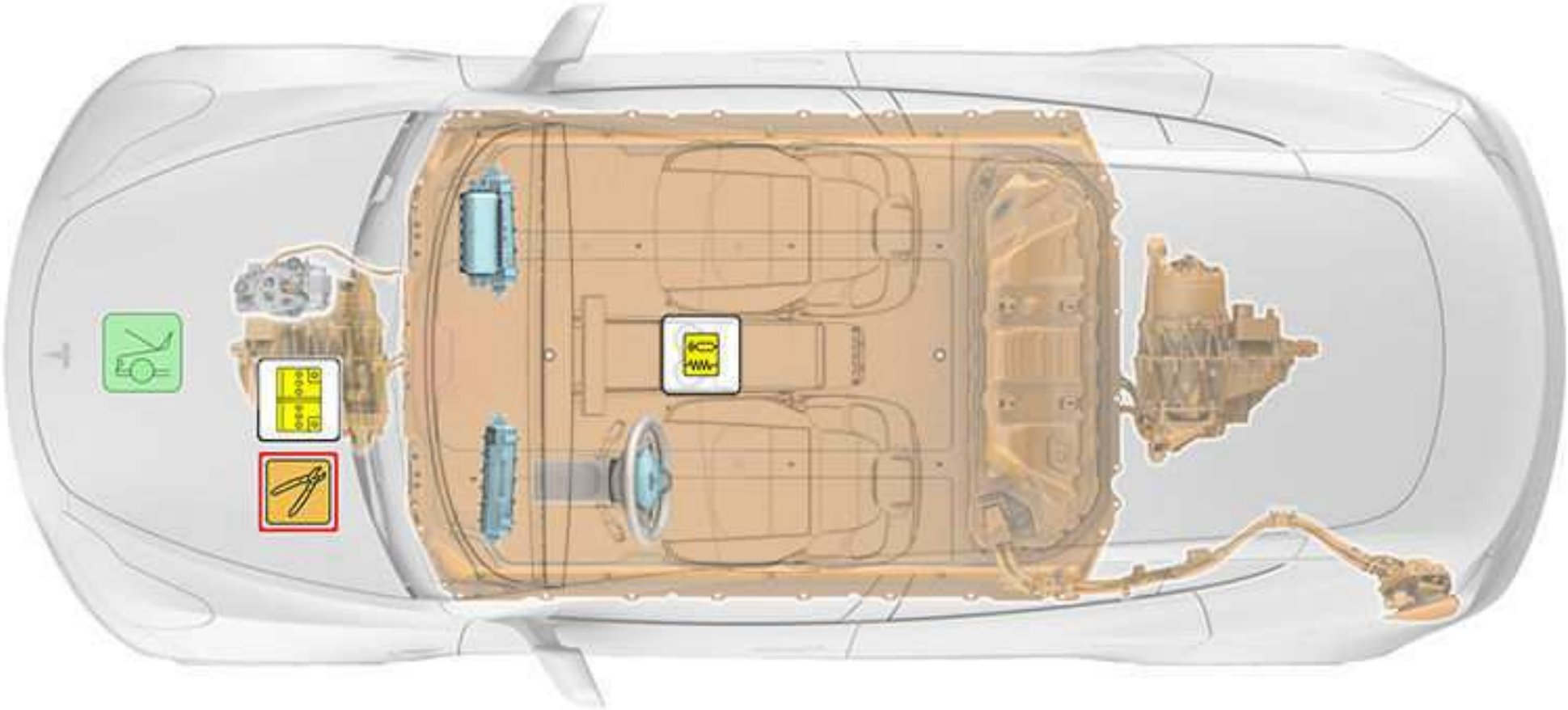
SHIFT INTO PARK

Model 3 moves silently, so never assume it is powered off. Pressing the accelerator pedal even slightly can cause Model 3 to accelerate quickly if the active gear is Drive or Reverse. To ensure that the parking brake is engaged, press the button on the end of the gear selector to shift into Park. Whenever Model 3 is in Park, the parking brake is automatically engaged and the touchscreen shows the active gear as Park (P).

FIRST RESPONDER CUT LOOP

The first responder loop is a low voltage harness. Cutting the first responder loop shuts down the high voltage system outside of the high voltage battery and disables the SRS and airbag components. Refer to Cutting the First Responder Loop on page 13 for instructions on how to access and cut the first responder loop.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.

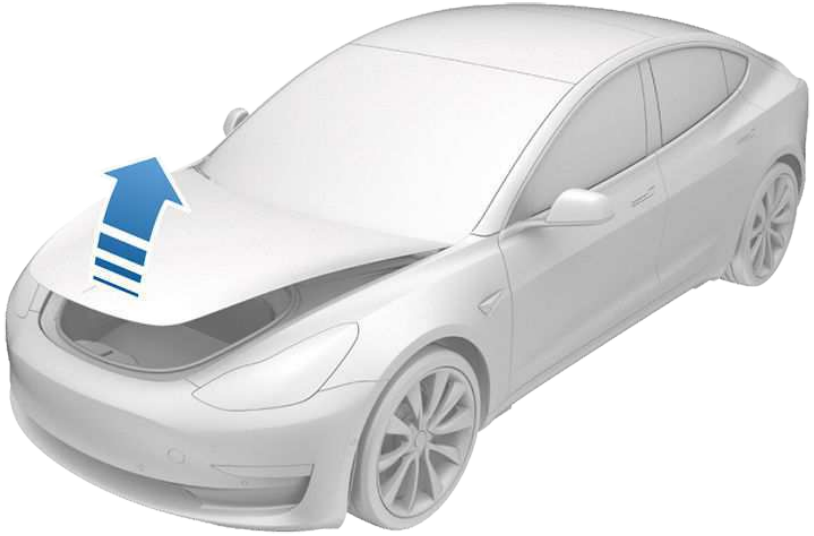


⚠ **Warning:** Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing, or touching high voltage components can result in serious injury or death.

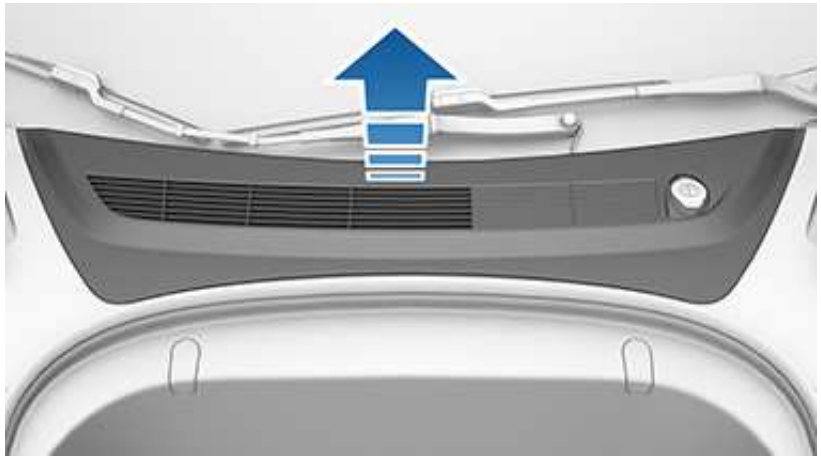
CUTTING THE FIRST RESPONDER LOOP

When cutting the first responder loop, double cut it to remove an entire section. This prevents the wires from accidentally reconnecting.

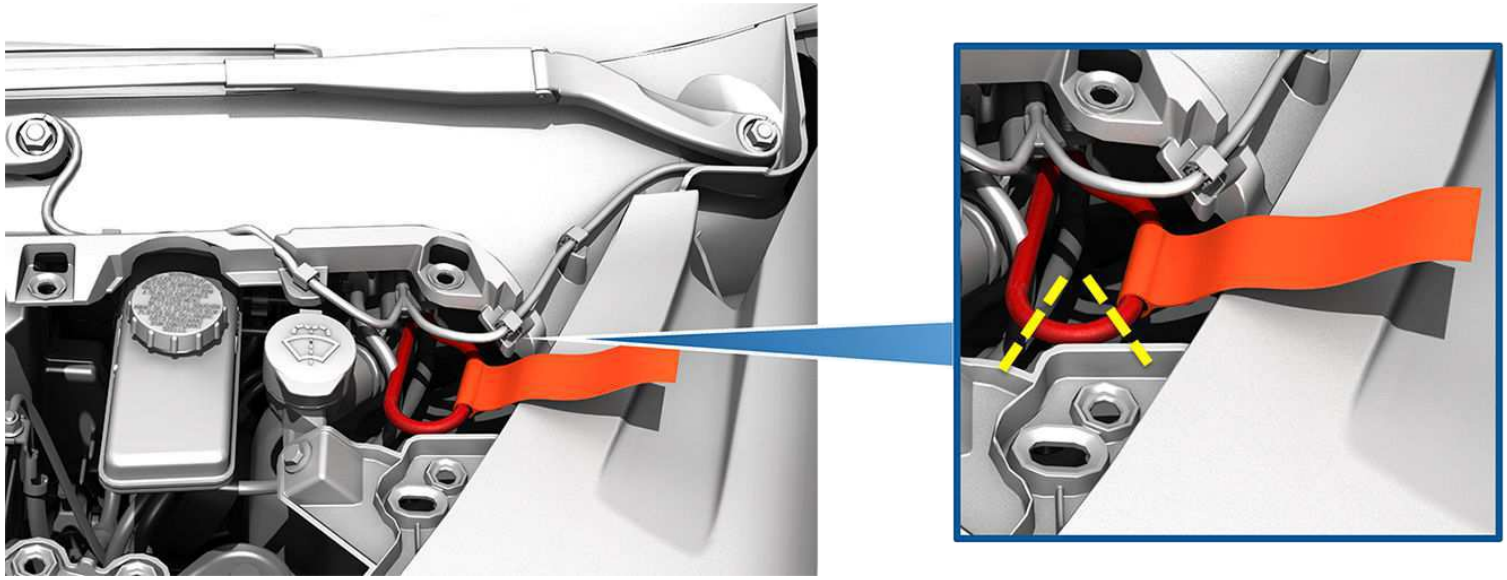
1. Open the hood. Refer to Opening the Hood on page 27 for instructions.



2. Remove the access panel by pulling it upwards to release the clips that hold it in place.



3. Double cut the first responder loop (shown in red).

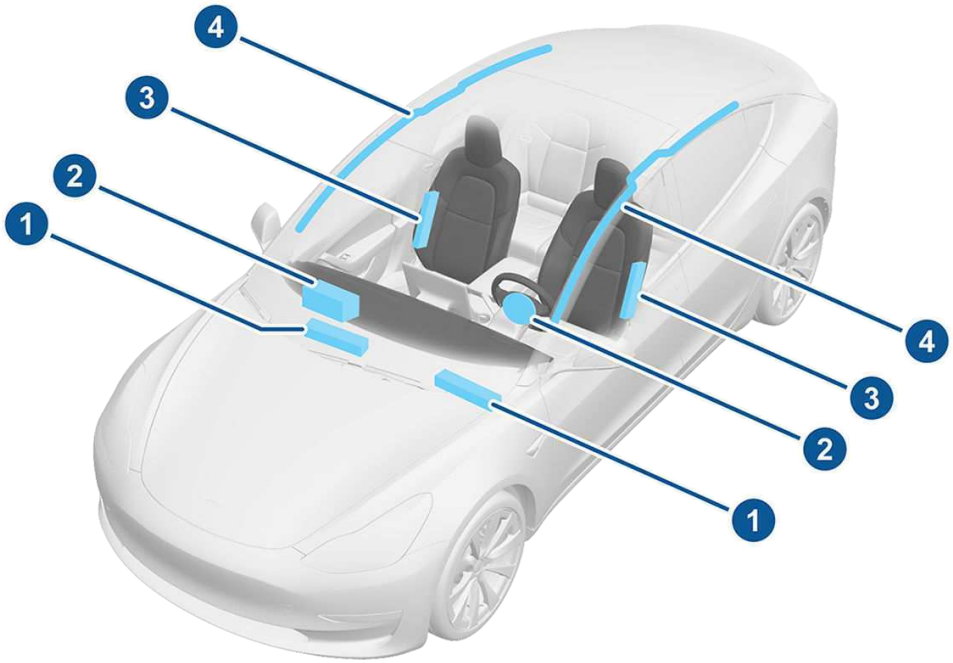


AIRBAGS

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

NOTE: Model 3 is designed to deactivate high voltage in all components and cables outside of the high voltage battery when an airbag is deployed.

NOTE: Left Hand Drive, North American vehicle shown. On Right Hand Drive vehicles, the passenger and driver airbag locations are reversed.

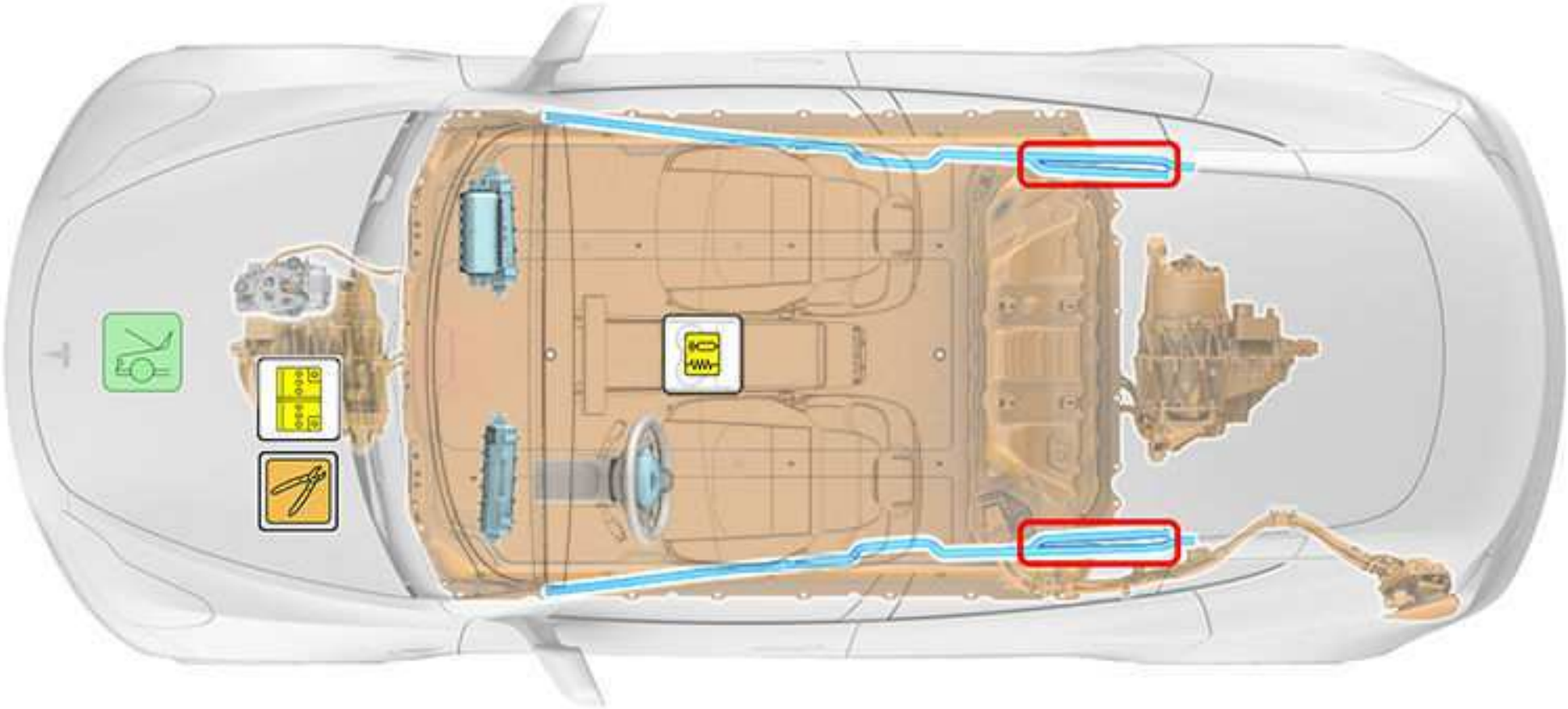


1. Knee airbags (North America only)
2. Front airbags
3. Seat-mounted side airbags
4. Curtain airbags

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

AIRBAG INFLATION CYLINDERS

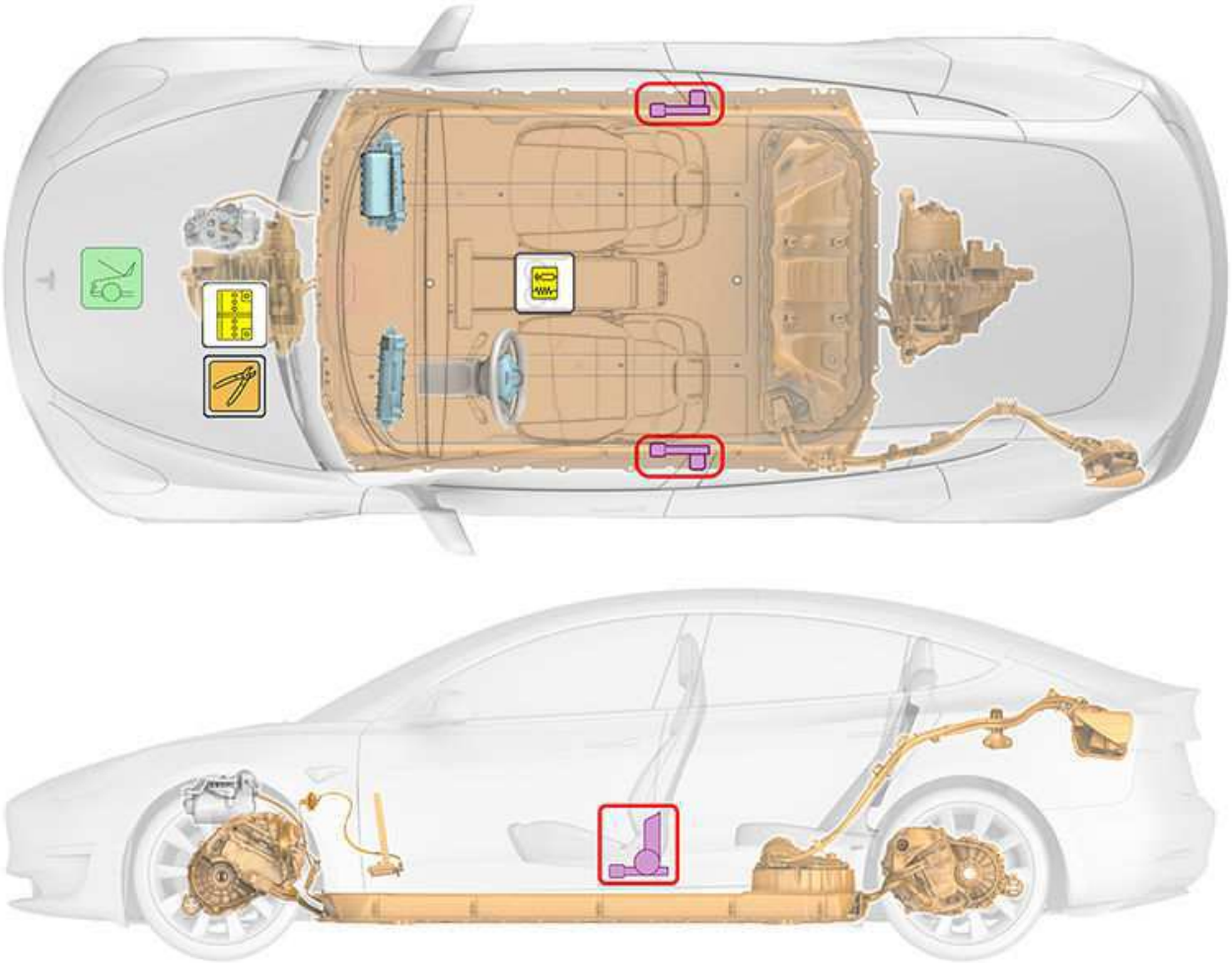
The airbag inflation cylinders, outlined in red, are located near the roof and towards the rear of the vehicle.



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

SEAT BELT PRE-TENSIONERS

The seat belt pre-tensioners, outlined in red, are located at the bottom of the B-pillars.



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

REINFORCEMENTS AND ULTRA HIGH STRENGTH STEEL

Model 3 is reinforced to protect occupants in a collision. Suitable tools must be used to cut or crush these areas. Reinforcements are shown in teal below.

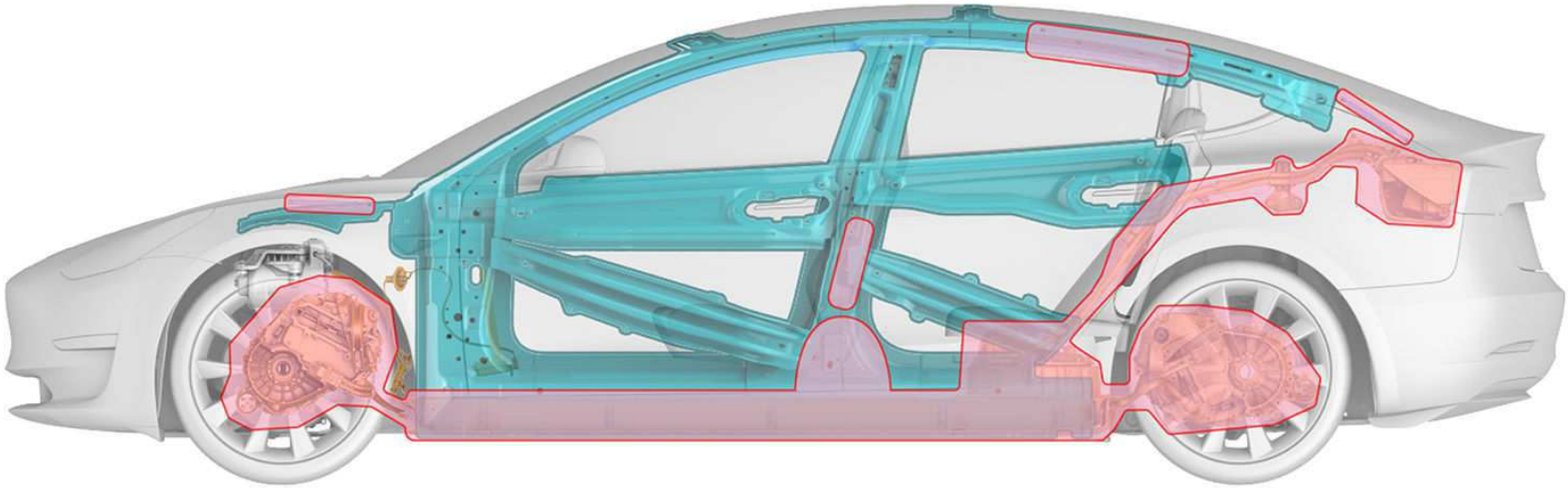
⚠ **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model 3. Failure to follow these instructions can result in serious injury or death.

⚠ **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.

NO-CUT ZONES

Model 3 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.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.

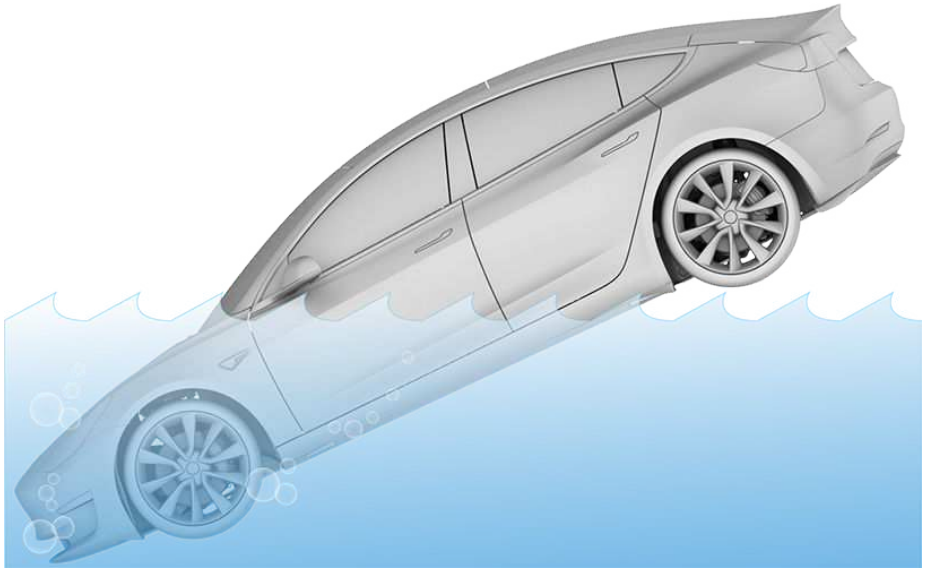


Warning: Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model 3. Failure to follow these instructions can result in serious injury or death.

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.

FULLY OR PARTIALLY SUBMERGED VEHICLES

Treat a submerged Model 3 like any other submerged vehicle. The body of Model 3 does not present a greater risk of shock because it is in water. However, handle any submerged vehicle while wearing the appropriate PPE. Remove the vehicle from the water and continue with normal high voltage disabling.



⚠ **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.

PUSHING ON THE FLOOR PAN

The high voltage battery is located below the floor pan. Never push on the floor pan inside Model 3. Doing so can breach the high voltage battery or damage the high voltage cables, which can cause serious injury or death.

FIREFIGHTING

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11,356 liters) of water, applied directly to the battery, to fully extinguish and cool down a battery fire; always establish or request an additional water supply. If water is not immediately available, use dry chemicals, CO2, foam, or another typical fire-extinguishing agent to fight the fire until water is available.

Apply water directly to the battery. If safety permits, lift or tilt the vehicle for more direct access to the battery. Apply water inside the battery ONLY if a natural opening (such as a vent or opening from a collision) already exists. Do not open the battery for the purpose of cooling it.

Extinguish small fires that do not involve the high voltage battery using typical vehicle firefighting procedures.

During overhaul, do not make contact with any high voltage components. Always use insulated tools for overhaul.

Heat and flames can compromise airbag inflators, stored gas inflation cylinders, gas struts, and other components which can result in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

Battery fires can take up to 24 hours to extinguish. Consider allowing the battery to burn while protecting exposures.

After all fire and smoke has visibly subsided, a thermal imaging camera can be used to actively measure the temperature of the high voltage battery and monitor the trend of heating or cooling. There must not be fire, smoke, or heating present in the high voltage battery for at least one hour before the vehicle can be released to second responders (such as law enforcement, vehicle transporters, etc.). The battery must be completely cooled before releasing the vehicle to second responders or otherwise leaving the incident. Always advise second responders that there is a risk of battery re-ignition.

Second responders may choose to drain excess water out of the vehicle by tilting or repositioning it. This operation can assist in mitigating possible re-ignition.

Due to potential re-ignition, a Model 3 that has been involved in a submersion, fire, or a collision that has compromised the high voltage battery should be stored in an open area at least 50 ft (15 m) from any exposure.

⚠ **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a SCBA.

HIGH VOLTAGE BATTERY - FIRE DAMAGE

A burning or heated battery releases toxic vapors. These vapors may include volatile organic compounds, hydrogen gas, carbon dioxide, carbon monoxide, soot, particulates containing oxides of nickel, aluminum, lithium, copper, cobalt, and hydrogen fluoride. Responders should always protect themselves with full PPE, including a SCBA, and take appropriate measures to protect civilians downwind from the incident. Use fog streams or positive-pressure ventilation fans (PPV) to direct smoke and vapors.

The high voltage battery consists of lithium-ion cells. These cells are considered dry cells. If damaged, only a small amount of fluid can leak. Lithium-ion battery fluid is clear in color.

The high voltage battery and drive unit(s) are liquid cooled with a typical glycol-based automotive coolant. If damaged, this blue coolant can leak out of the high voltage battery.

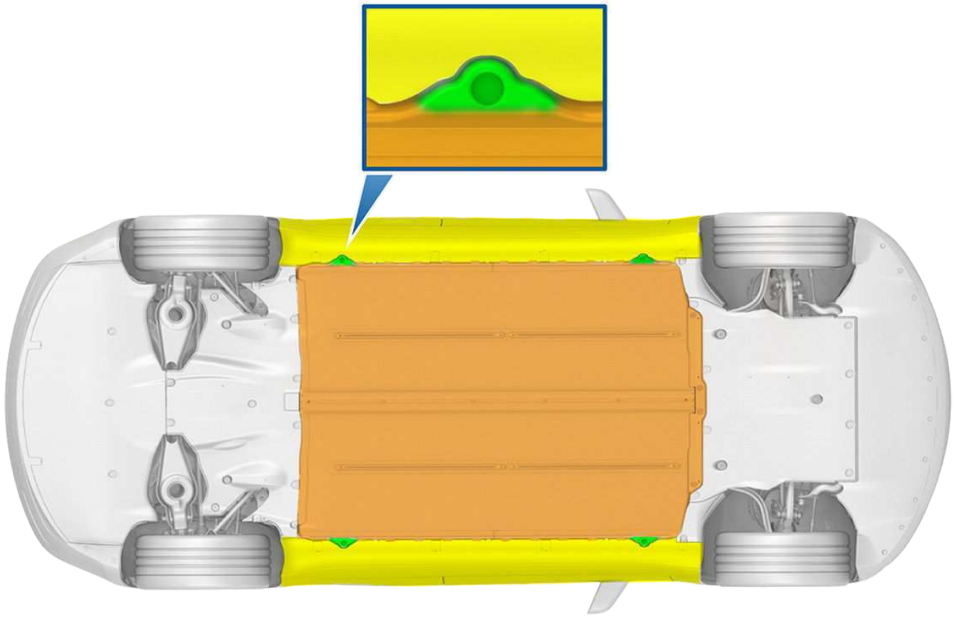
A damaged high voltage battery can create rapid heating of the battery cells. If you notice smoke coming from the high voltage battery, assume that it is heating and take appropriate action as described in Firefighting on page 21.

LIFT AREAS

The high voltage battery is located under the floor pan. A large section of the undercarriage houses the high voltage battery. When lifting or stabilizing Model 3, only use the designated lift areas, as shown in green.

⚠ **Warning:** The vehicle should be lifted or manipulated only if first responders are trained and equipped at the technician level per NFPA (National Fire Protection Association) and are familiar with the vehicle's lifting points. Use caution to ensure you never come into 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 TO LIFT OR STABILIZE MODEL 3.



Appropriate lift areas

Safe stabilization points for a Model 3 resting on its side

High voltage battery

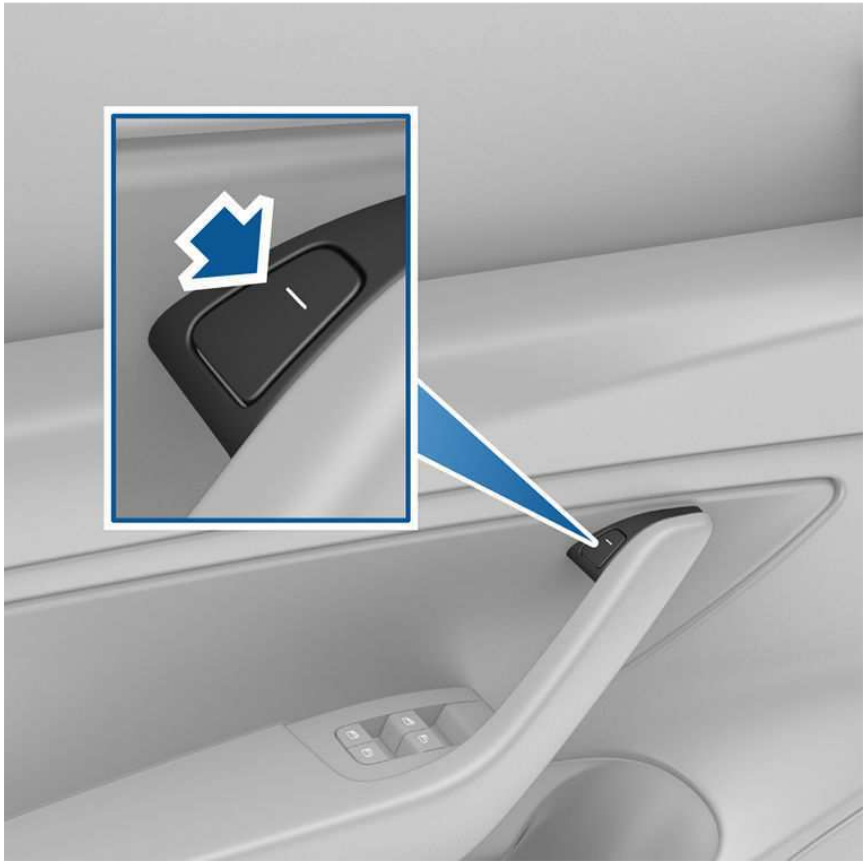
OPENING DOORS FROM THE OUTSIDE

To open the Model 3 doors from the outside, press the wide part of a door handle inwards and then pull the door open.

NOTE: If the door handles do not function, open a front door manually by reaching inside the window and using the mechanical release handle. See Opening Front Doors Without Power on page 26.

OPENING DOORS FROM THE INSIDE WITH POWER

To open the Model 3 doors from the inside with 12 volt power enabled, press the button located near the door panel.



OPENING FRONT DOORS WITHOUT POWER

To open the Model 3 front doors from the inside without 12 volt power, lift the mechanical release handle located near the window switches.

NOTE: Only the front doors are equipped with a mechanical release handle.

OPENING THE HOOD

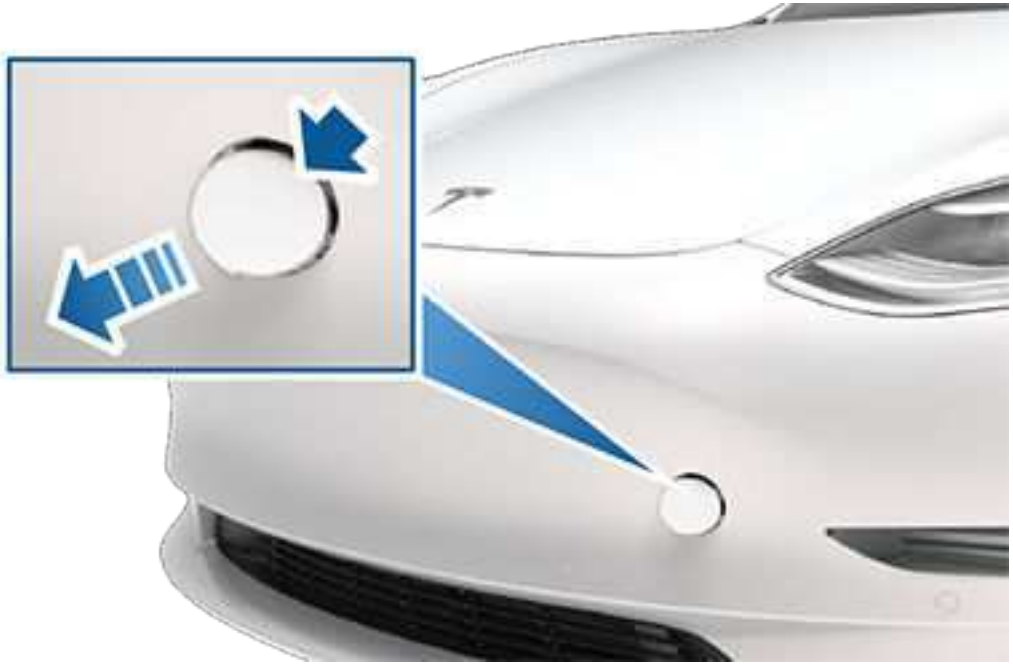
Model 3 does not have a traditional internal combustion engine. Therefore, the area that would normally house the engine is used as additional storage space. Tesla calls this area the “Front Trunk”.

To open the hood with 12 volt power enabled, touch the associated OPEN button on the touchscreen.

To open the hood without 12 volt power:

NOTE: The following will not open the front trunk if Model 3 is locked and has 12V power.

1. Locate an external 12 volt power supply.
2. Release the tow eye cover by pressing firmly on the top right perimeter of the cover until it pivots inward, then pulling the raised section toward you.



3. Pull the two wires out of the tow eye opening to expose the vehicle-side terminals.

4. Connect the external 12 volt power supply's red positive (+) cable to the red positive (+) vehicle-side terminal.

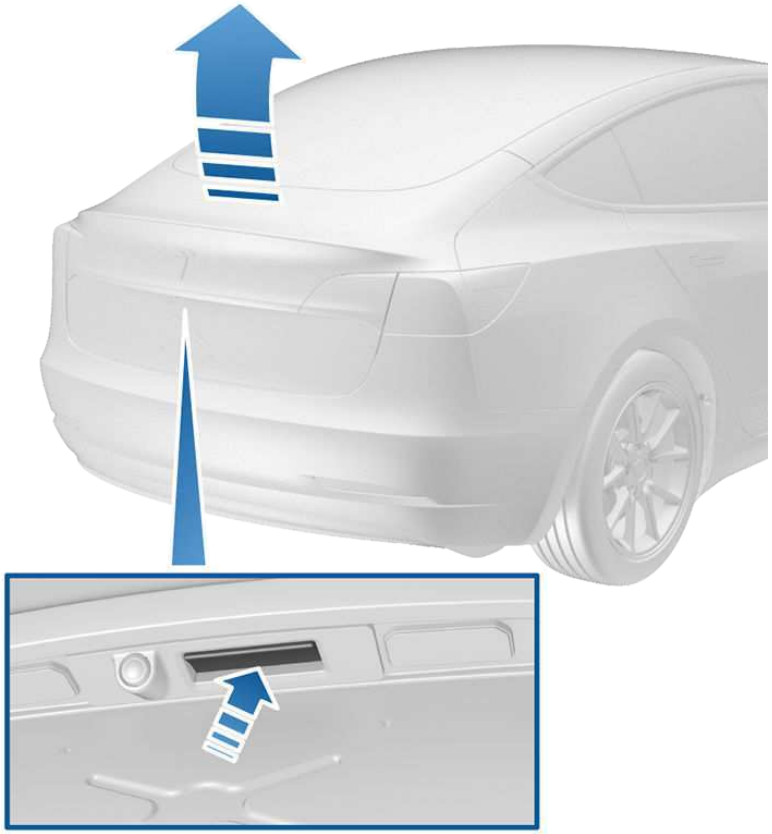
5. Connect the external 12 volt power supply's black negative (-) cable to the black negative (-) vehicle-side terminal.

6. Turn on the external power supply (refer to the external power supply manufacturer's instructions). The hood latches are immediately released and you can now open the hood to access the front trunk area.
7. Disconnect both external power supply cables, beginning with the black negative (-) cable.

OPENING THE TRUNK

Use one of the following methods to open the trunk:

- Touch the associated OPEN button on the touchscreen for the trunk.
- Press the switch located under the exterior handle on the trunk.



PUSHING THE VEHICLE

⚠ **Warning:** The following instructions are intended to be used when only moving Model 3 a very short distance to improve traffic safety. Refer to the Owner's Manual on the touchscreen or the Roadside Assistance Guide in the glovebox for instructions on how to transport Model 3. Damage caused by transporting the vehicle is not covered by the warranty.

⚠ **Warning:** Pushing Model 3 when it is not in Neutral or Transport Mode can result in overheating the rear motor and potential risk of shock if electrical components are exposed, even if the first responder loop has been cut.

In situations where there is minimal risk of fire or high voltage exposure (for example, the vehicle does not accelerate after coming to a stop at an intersection) and 12V power is present, Model 3 can be quickly pushed in order to clear the roadway. If a driver is present, simply shift Model 3 into Neutral and then push the vehicle. If a driver is not present, Model 3 may automatically shift into Park when it detects the driver leaving the vehicle (even if it has previously been shifted into Neutral).

To keep Model 3 in Neutral (which disengages the parking brake and allows the vehicle to be pushed) without a driver present, use the touchscreen to activate Transport Mode:

1. Ensure Model 3 is in Park.
2. Press and hold the brake pedal, then on the touchscreen touch Controls > Service > Towing.
3. Hold the Transport Mode button until it turns blue. Model 3 is now free-rolling and can be slowly rolled (no faster than walking speed) or winched.

NOTE: Model 3 must detect a key nearby and 12V power is required for Transport Mode to activate.

To cancel Transport Mode, shift Model 3 into Park.

NOTE: Transport Mode automatically cancels and the parking brake is applied if Model 3 is rolled faster than 5 mph (8 km/h) or 12V power becomes low or absent. Model 3 sounds its horn if Transport Mode is about to cancel.

NOTE: If Model 3 cannot detect the key (an authenticated smartphone or key), the Transport Mode button is grayed out and Transport Mode cannot be enabled. Call Tesla Roadside Assistance.

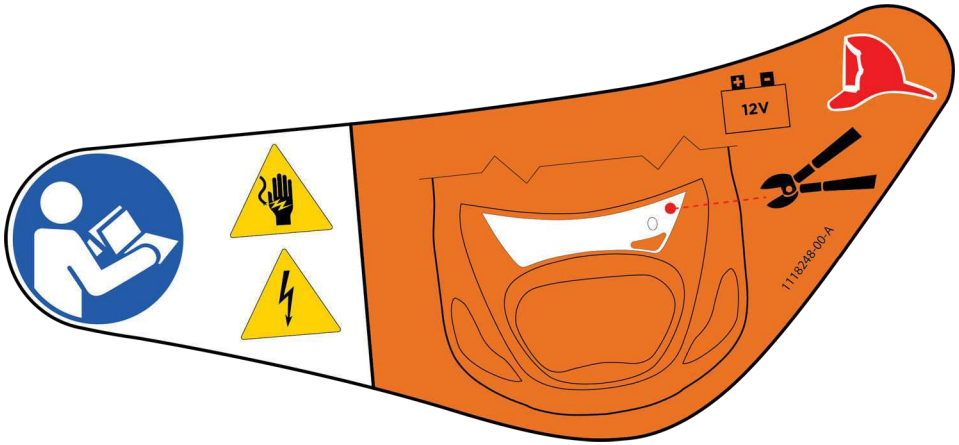
NOTE: The touchscreen is unresponsive if Model 3 has no 12V power. Use an external 12V power to open the hood and jump start the vehicle’s auxiliary 12V battery. Refer to the Roadside Assistance Guide in the glovebox (touch Controls > Glovebox) or call Tesla Roadside Assistance for instructions.

EXAMPLE OF A HIGH VOLTAGE LABEL

An example of a label located on a high voltage component is shown below. Note that, depending on the market region and vehicle build date, labels might change or be translated into other languages.

NOTE: High voltage labels may not be present newer vehicles. Do not rely on the labels to warn you of high voltage components. Always assume all high voltage components are energized.

⚠ **Warning:** Not every high voltage component is labeled. Always wear appropriate PPE when cutting Model 3. Failure to follow these instructions can result in serious injury or death.



CONTACT US

First Responders and Second Responders with emergencies should call Tesla Roadside Assistance. Refer to https://www.tesla.com/roadside-assistance for the applicable number.

First Responders and training officers who have questions, please contact firstrespondersafety@tesla.com.

Model 3 Emergency Response Sheet

12V battery	Emergency disconnect	SRS control unit
Gas cylinder	Airbags (knee airbags N.A. only)	Seat belt pre-tensioners
Gas inflator	High voltage components	Reinforcements

Firefighting

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11356 liters) of water (applied directly to the battery); establish sufficient water supply.

Extinguish small fires not involving the battery using typical vehicle firefighting procedures.

Always use insulated tools for overhaul.

Heat and flames can compromise some components, resulting in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

There must not be fire, smoke, or heating present in the battery for at least one hour (consider using a thermal imaging camera to measure the temperature) and the battery must be completely cooled before the vehicle can be released to second responders. Always advise second responders that there is a risk of battery re-ignition.

Warnings and Notes

- **Warning:** Always assume Model 3 is powered and high voltage (HV) components are energized.
- **Warning:** Always wear full PPE, including a self-contained breathing apparatus.
- **Warning:** Never touch, cut, or open any orange HV cable or component.
- **Warning:** Double cut the first responder loop to remove an entire section. This prevents the wires from reconnecting.
- **Warning:** Do not use the HV battery to lift or stabilize Model 3.
- **Warning:** After deactivation, the HV circuit requires 2 minutes to deplete.
- **Warning:** The SRS control unit has a backup power supply with a discharge time of approximately 10 seconds.
- **Warning:** NEVER TRANSPORT THE VEHICLE WITH THE WHEELS ON THE GROUND. THIS CAN LEAD TO OVERHEATING, WHICH MAY CAUSE SOME COMPONENTS TO IGNITE.

Note: Treat a submerged Model 3 like any other submerged car.

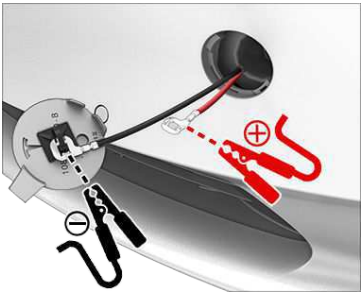
Note: Refer to the relevant Emergency Response Guide for additional information.

Stabilize the Vehicle

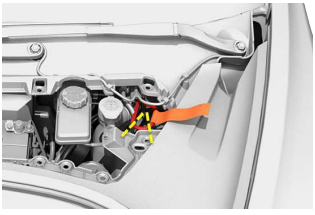
1. Chock the wheels.
2. Set the parking brake.

Disable the HV System

1. Open the hood:
   - 12V enabled: Touch the associated **OPEN** button on the touchscreen.
   - 12V disabled: Release the tow eye cover from the front fascia, pull the two wires out, then connect external 12V power to the terminals.



2. Remove the access panel by pulling it up to release the clips securing it.
3. Double cut the first responder loop to remove an entire section.



V2 SUPERCHARGER FIRST RESPONDER GUIDE

This guide does not apply to the new V3 Supercharger.

This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle Tesla Supercharger equipment in an emergency situation. It describes how to identify Supercharger equipment, and provides the locations and descriptions of its high voltage components. This guide includes the high voltage disabling procedure and any safety considerations specific to Supercharger equipment. Failure to follow recommended practices or procedures can result in serious injury or death.

Supercharger equipment is constantly evolving, and multiple generations of hardware exist. The images in this guide might not match the equipment you are working on. Any major changes regarding high voltage components across equipment generations will be explicitly outlined in this guide.

Table of Contents

Physical Damage to Electrical Switchgear or Transformer

BE AWARE OF ELECTRIC HAZARDS

- Use extreme caution when approaching the scene of an electrical emergency, especially at night.
- Contact local utility company to disconnect grid power coming into equipment.
- Treat all wires as dangerous and energized at high voltage.
- Do not attempt to move exposed power cables.
- Do not spray water on exposed cables, transformers or other electrical equipment.
- Do not cut into locked cabinets. Cutting tools could make contact with energized equipment inside the cabinet.
- Do not disassemble electrical switchgear or transformer. This may only be done by licensed electricians or trained utility technicians with a proper understanding of the equipment.
- Always use appropriate Personal Protective Equipment (PPE) when handling high voltage equipment.

⚠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.

How to Disconnect Power to the Entire Supercharger Site

- Locate electrical switchgear for Supercharger Cabinets, typically inside an enclosure similar to what is pictured below. This enclosure is usually located within 100 feet of the station.

- Enter the locked enclosure. Enclosures are typically locked with padlocks or a locked door handle. The use of bolt-cutters will typically be needed.
- Electrical switchgear enclosures are locked with padlocks and can be removed using bolt-cutters. Switchgear usually consists of two or three separate bays, each with its own door. Switchgear configurations may vary by site.
- To disconnect all power to the site, locate the main feeder breaker located usually in the middle bay of the switchgear. Move the handle of the breaker to the off, downward position. Do not attempt to reset the breaker to disconnect.
- If the main breaker is malfunctioning or inoperable, use the branch breakers to disconnect power to all equipment on site (see next section). If the switchgear is inoperable and appears to have major damage, contact the utility company to disconnect power from the grid.
- Do NOT attempt to disconnect power via the Tesla Supercharger Cabinets themselves (pictured below). Disconnecting power to the Supercharger Cabinets should always be done via the branch breakers in the switchgear, as described in the next section.

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.

How to Disconnect Power to a Single Supercharger Cabinet

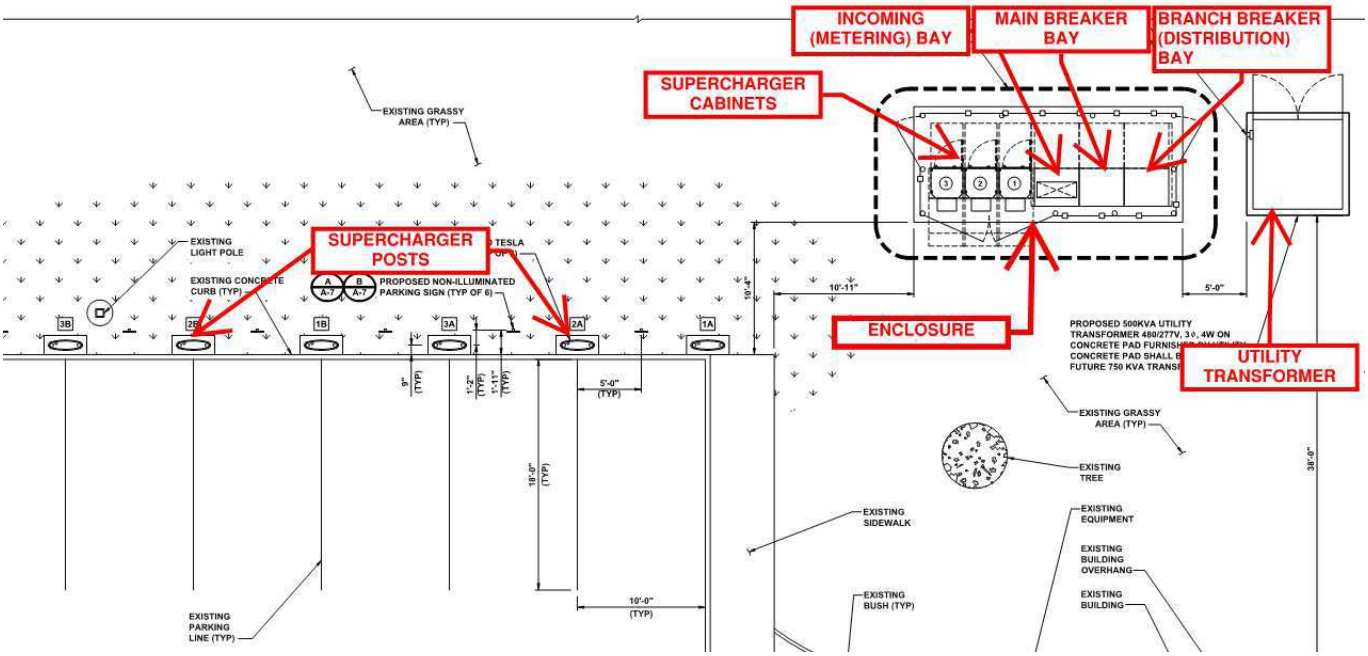
- Locate electrical switchgear for Supercharger Cabinets, typically inside an enclosure similar to what is pictured below. This enclosure is usually located within 100 feet of the station.

- Enter the locked enclosure. Enclosures are typically locked with padlocks or a locked door handle. The use of bolt-cutters will typically be needed.
- Electrical switchgear enclosures are locked with padlocks and can be removed using bolt-cutters. Switchgear usually consists of two or three separate bays, each with its own door. Switchgear configurations may vary by site.
- To disconnect power to a specific Supercharger Cabinet, locate the bay of the switchgear that contains the branch circuit breakers for each Supercharger Cabinet. Branch breakers are labeled with corresponding Supercharger Cabinets that are connected to them. Supercharger Cabinets are labeled in a similar manner.
- Switch the breaker handle to the OFF position. Do not attempt to reset the breaker to disconnect.
- This will disconnect all power to the specific Supercharger Cabinet, as well as its corresponding Supercharger posts.
- If both the main breaker and branch breakers are inoperable or have major damage, contact the utility company to disconnect power from the grid.

⚠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.

General Site Layout

- A typical site layout is shown below.
- No two sites are identical, but the enclosure usually contains the switchgear and the Supercharger cabinets.
- The enclosure in most cases is located as close as possible to the Supercharger Posts.



⚠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.

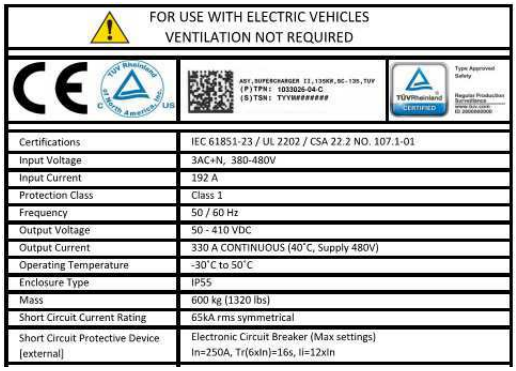
Firefighting

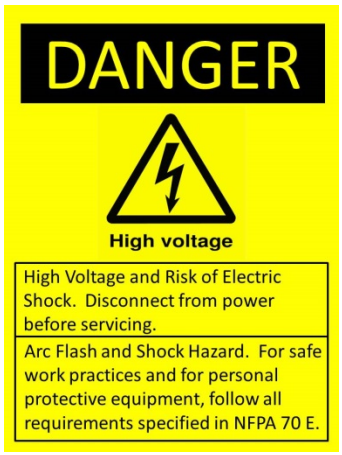
Extinguish small fires that do not involve a high voltage battery, using a CO_2 or ABC extinguisher.

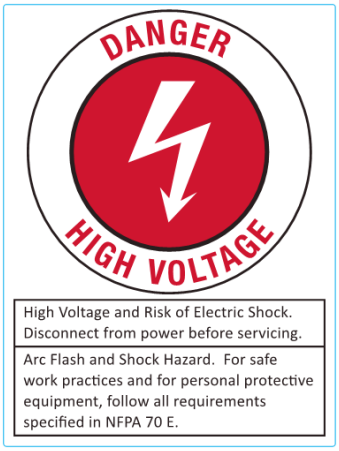
During overhaul, do not make contact with any high voltage component. Always use insulated tools for overhaul.

High Voltage Labels

Labels associated with high voltage equipment are shown below. These are examples only. Depending on the region, these labels may be translated into other languages.







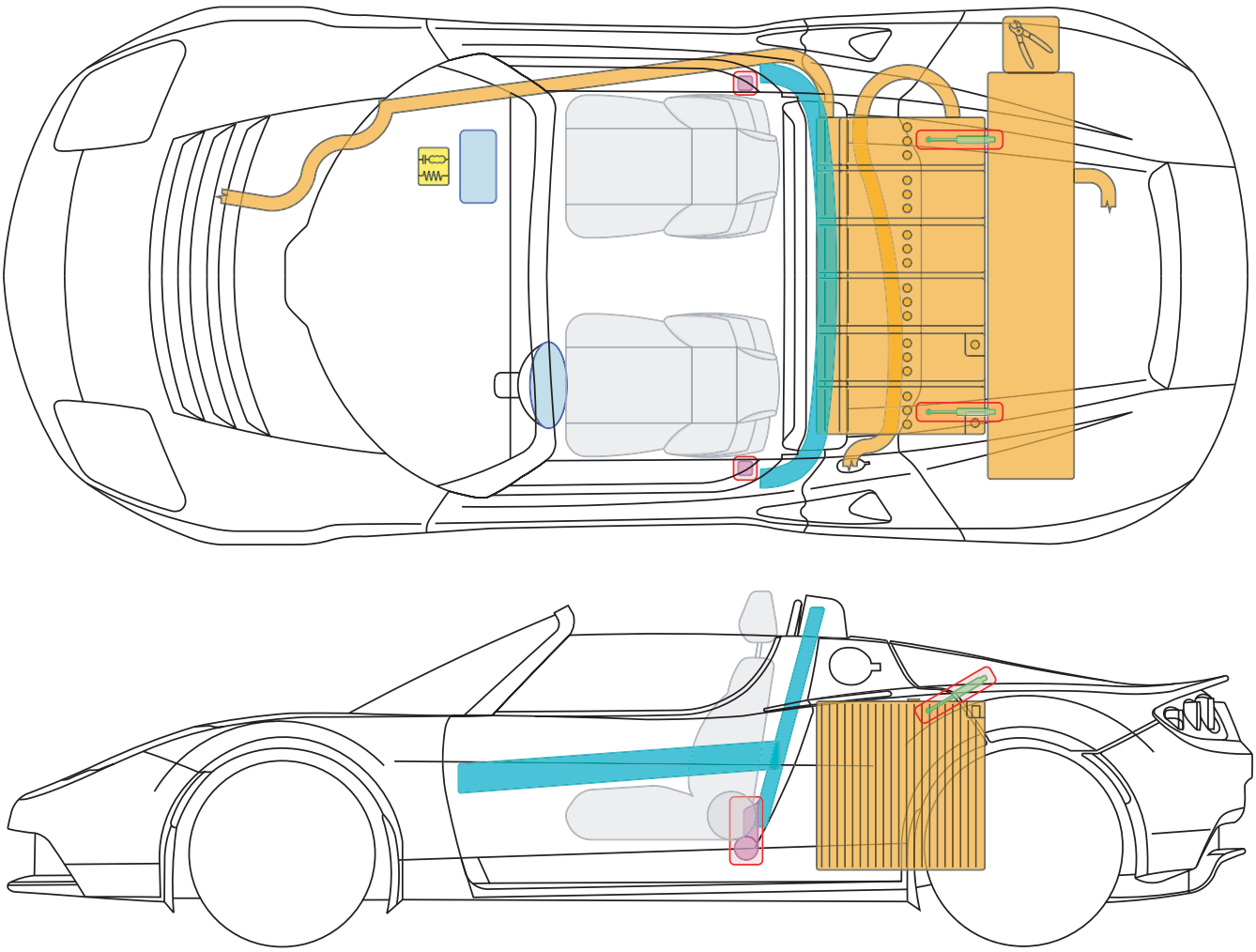
WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

TESLA
3500 Deer Creek Road
Palo Alto, CA 94304

TESLA

Roadster

(2008-2009 (Powertrain 1.5))



Legend

- Airbag
- Reinforce-ment
- SRS control unit
- Lithium Ion (Li-Ion) battery pack
- Stored gas inflator
- Pressurized gas cylinder
- 12V battery
- High voltage power cable/ component
- Seat belt pre-tensioner
- Emergency disconnect cable

Roadster

TESLA **Roadster**
(2008-2009 (Powertrain 1.5))

General instructions

- Always assume the vehicle is powered, even if it is silent!
- Never touch, cut, or open any orange high voltage power cable or high voltage component!
- Do not damage the battery pack, even if the propulsion system is deactivated.
- The battery pack has an inertia switch that is designed to activate in a collision, which disables the high voltage system.
- Caution! After deactivation, the high voltage circuit requires 5 minutes to deplete.
- Caution! The SRS control unit is equipped with a backup power supply with a discharge time of approx. 30 sec.

Immobilize the vehicle

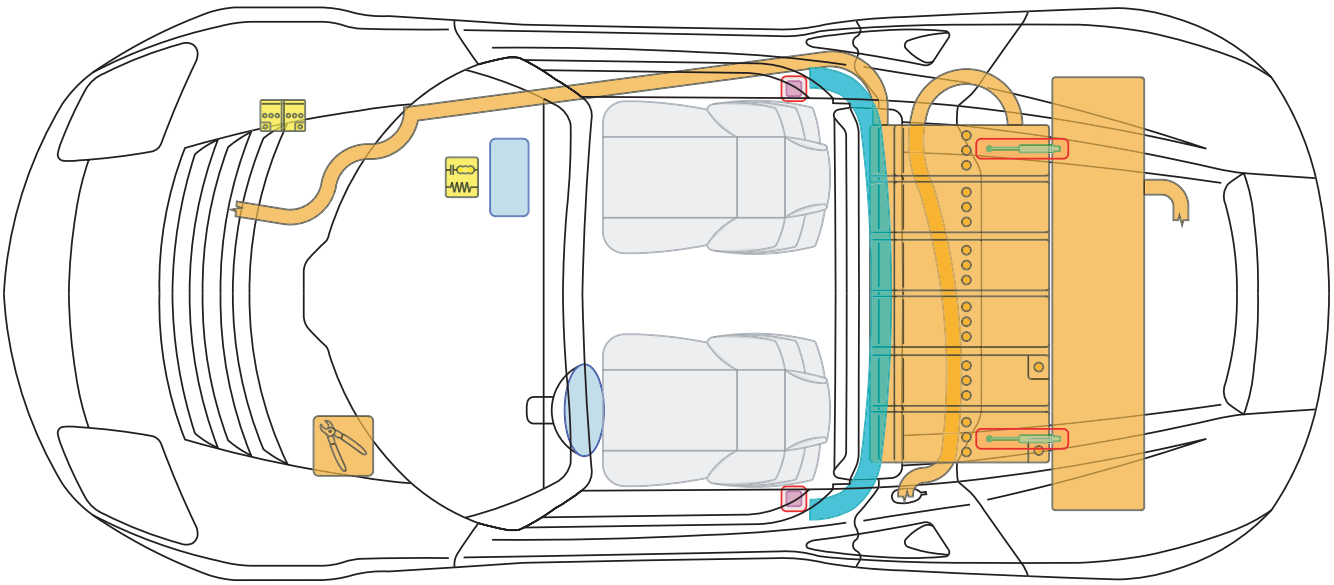
1. Chock wheels.
2. Set parking brake.
3. Move the shift lever to the Neutral position.

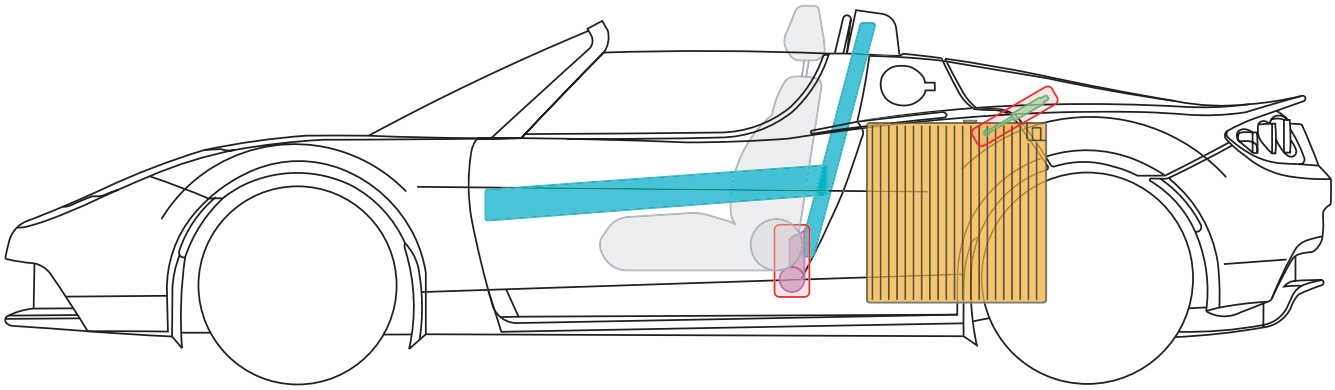
Deactivate the vehicle

1. Turn the ignition key to the “OFF” position and remove it.
2. Raise the trunk lid by pressing the release button next to the headlight switch, or using the key.
3. Remove the yellow cut loop cover on the right side of the power electronics module.
4. Double cut a section out of the loop so that the ends cannot reconnect.

TESLA Roadster

(2010-2013 (Powertrain 2.0 and 2.5))





Legend

- Airbag
- Reinforce-ment
- SRS control unit
- Lithium Ion (Li-Ion) battery pack
- Stored gas inflator
- Pressurized gas cylinder
- 12V battery
- High voltage power cable/ component
- Seat belt pre-tensioner
- Emergency disconnect cable

Roadster

TESLA **Roadster**

(2010-2013 (Powertrain 2.0 and 2.5))

General instructions

- Always assume the vehicle is powered, even if it is silent!
- Never touch, cut, or open any orange high voltage power cable or high voltage component!
- Do not damage the battery pack, even if the propulsion system is deactivated.
- The battery pack has an inertia switch that is designed to activate in a collision, which disables the high voltage system.
- Caution! After deactivation, the high voltage circuit requires 5 minutes to deplete.
- Caution! The SRS control unit is equipped with a backup power supply with a discharge time of approx. 30 sec.

Immobilize the vehicle

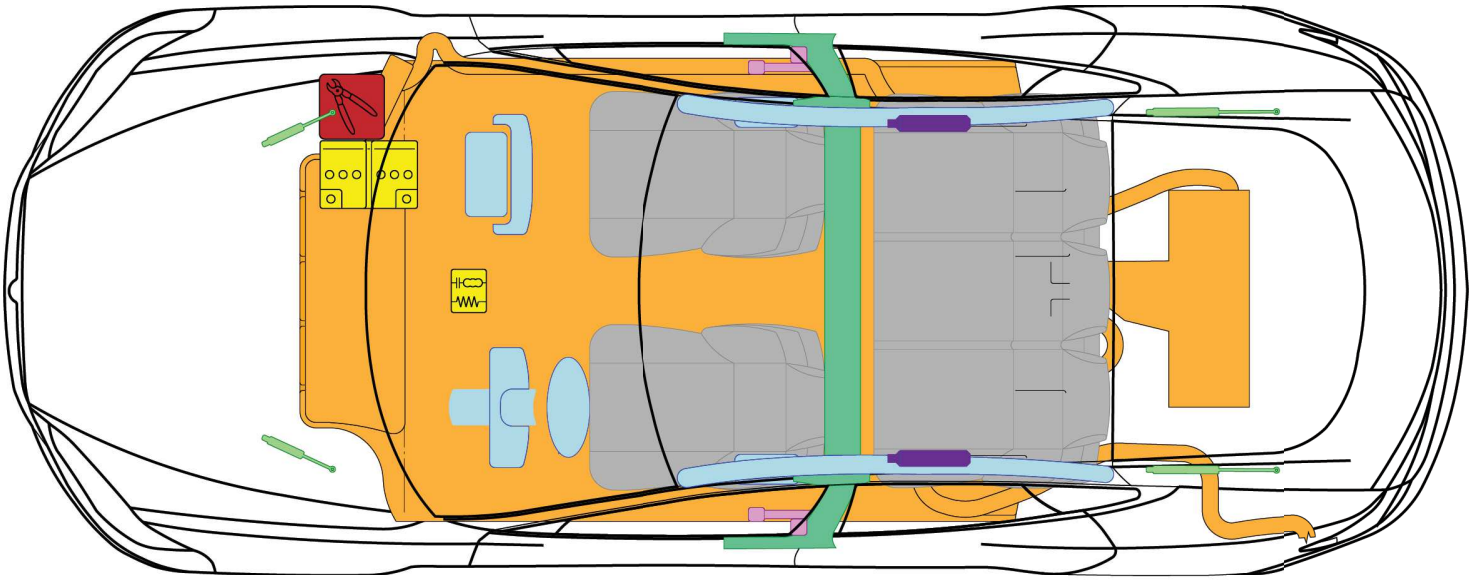
1. Chock wheels.
2. Set parking brake.
3. Select the Park button on the gear switch.

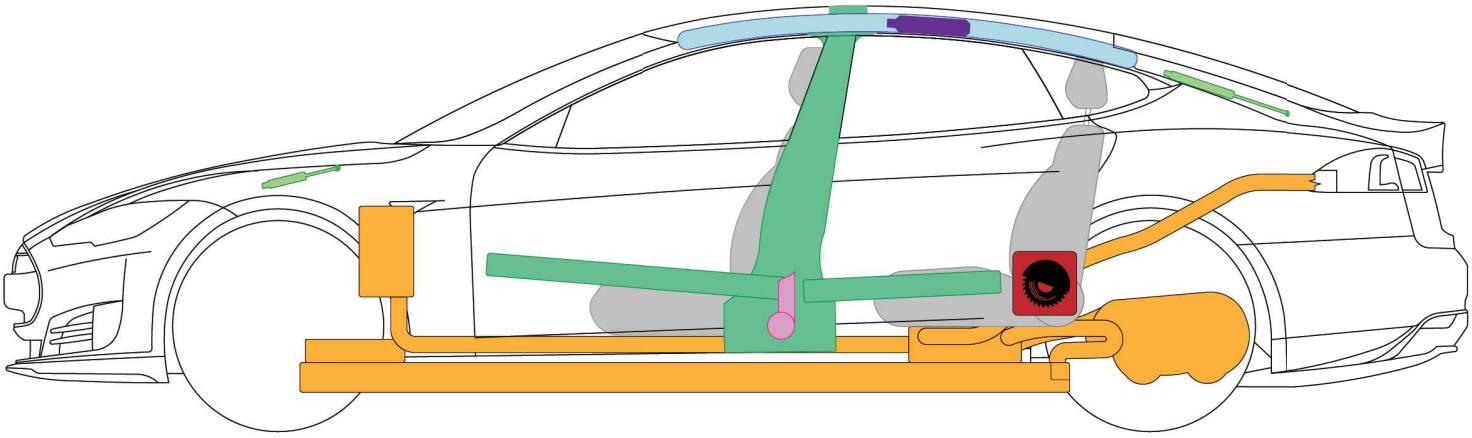
Deactivate the vehicle

1. Turn the ignition key to the “OFF” position and remove it.
2. Open the hood by pulling the release handle to the left of the steering column.
3. Locate the cut loop at the base of the windshield, near the brake fluid reservoir.
4. Double cut a section out of the loop so that the ends cannot reconnect.

MODEL S

2012 - 2013





Legend

- Stored Gas Inflator
- Pressured Gas Cylinder
- HV Cables & Battery
- 12V Battery
- Emergency Disconnect
- Airbags
- SRS Control Unit
- Seat Belt Pre-tensioner
- Reinforcement

GENERAL INSTRUCTIONS

- Always assume the vehicle is powered, even if it is silent!
- Never touch, cut, or open any orange high voltage cable or high voltage component.
- Do not damage the battery pack, even if the propulsion system is deactivated.
- In the event of a collision with pre-tensioner or airbag deployment, the high voltage system should automatically disable.

WARNING: After deactivation, the high voltage circuit requires two minutes to deplete.

WARNING: The SRS control unit has a backup power supply with a discharge time of approximately ten seconds.

IMMOBILIZE THE VEHICLE

STEP 1: Chock the wheels.

STEP 2: Set the Parking Brake by pushing in the button on the end of the gearshift stalk.

DEACTIVATE THE VEHICLE

The cut loop is located under the hood on the right side of the vehicle.

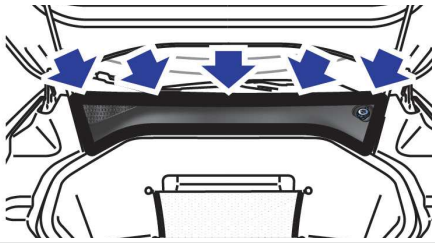
STEP 1: Open the hood using one of these methods:

- Double-click the Front Trunk (hood) button on the key.
- Touch Front Trunk on the touchscreen.
- Pull the release handle located under the glove box, then push down on the secondary catch lever. To release the pressure against the secondary catch, you may need to push the hood down slightly.

3 ways to open the hood

STEP 2: Remove the access panel (cowl screen) by pulling its rear edge upward to release the five clips that hold it in place.

Remove access panel



STEP 3: Double cut a section out of the loop so that the ends cannot reconnect.

Double cut the loop

- If you cannot access the front cut loop on vehicles built after June 2013, disable the high voltage by cutting into the second-row door pillar nearest the charge port.
- Use a 12" circular saw to cut 6 in (152 mm) through the label (right) and into the pillar.

2014-2015 ALL-WHEEL DRIVE DUAL MOTOR MODEL S

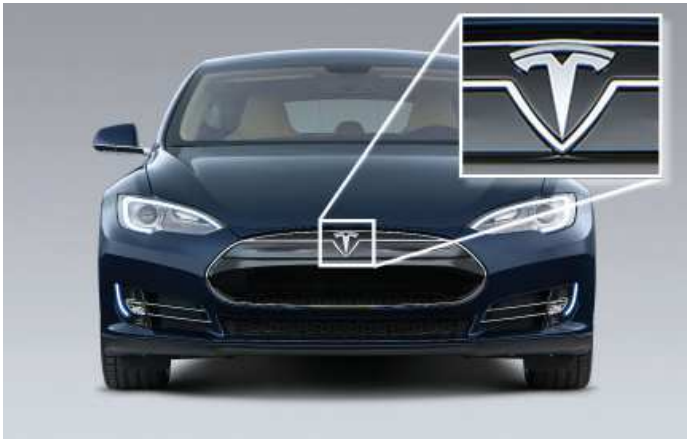
EMERGENCY RESPONSE GUIDE

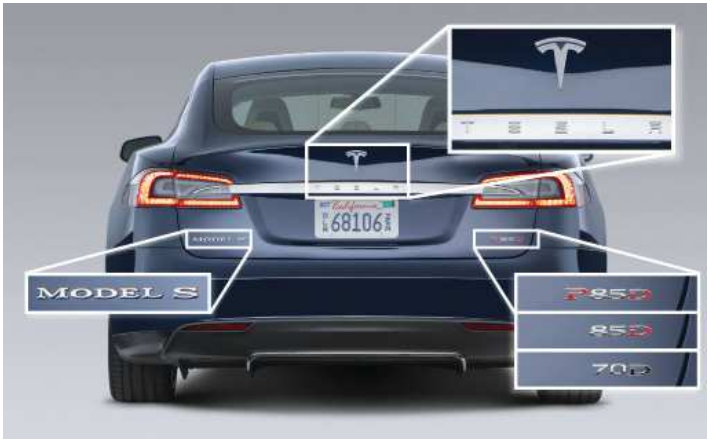
This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle the fully electric Model S in an emergency situation. It describes how to identify Model S, and provides the locations and descriptions of its high voltage components, airbags, inflation cylinders, seat belt pre-tensioners, and high strength materials used in its body structure. This guide includes the high voltage disabling procedure and any safety considerations specific to Model S. Failure to follow recommended practices or procedures can result in serious injury or death.

The high voltage battery is the main energy source. Model S does not have a traditional gasoline or diesel engine and therefore does not have a fuel tank. The rear motor in dual motor Model S comes in two types: regular and high performance. The images in this guide might not match the vehicle you are working on.

BADGING

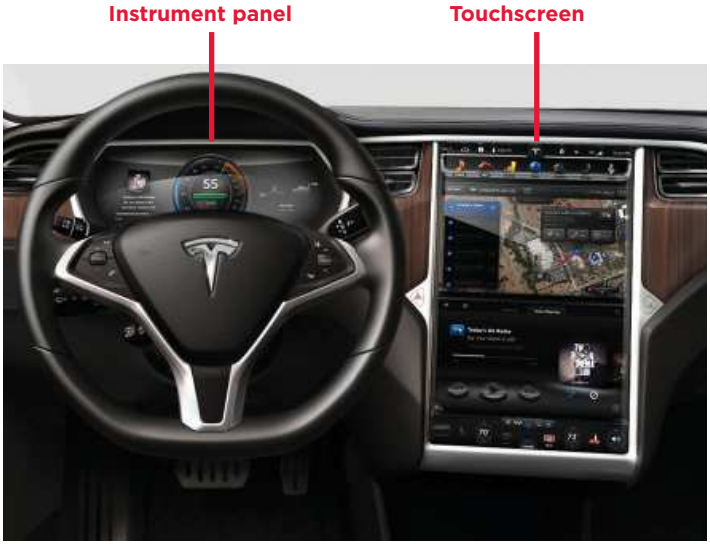
Dual motor Model S has four main badges to distinguish it.





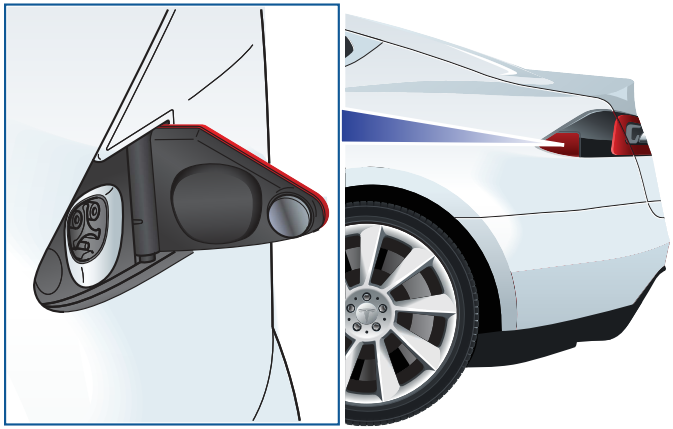
LARGE SCREEN

Model S has a large 17” touchscreen.



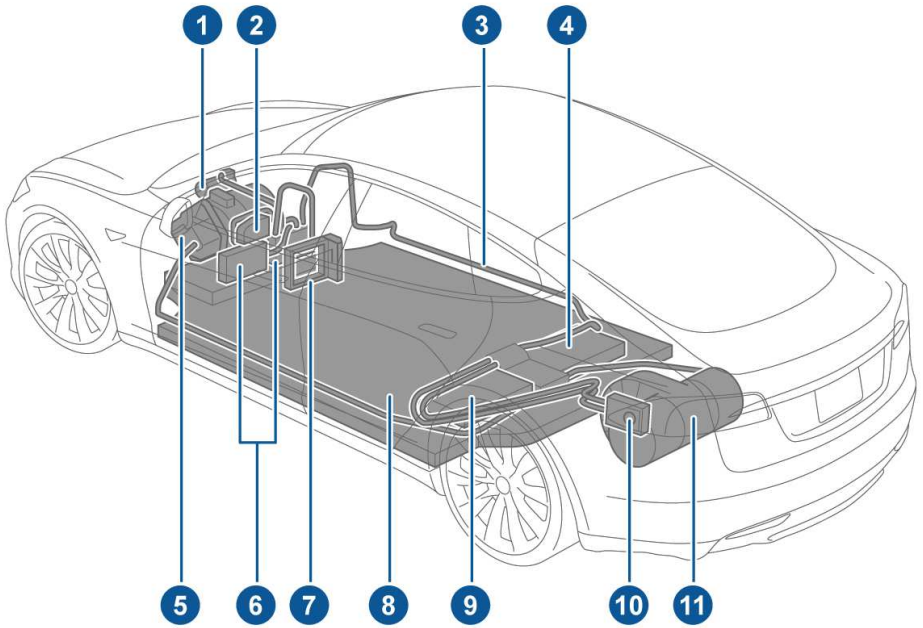
CHARGE PORT

Model S has a charge port that is integrated into the taillight on the rear left side fender.



OVERVIEW OF HIGH VOLTAGE COMPONENTS

1. A/C compressor
2. Battery coolant heater
3. High voltage cabling (colored orange)
4. 10 kW on-board master charger
5. Front motor
6. DC-DC converter and front junction box
7. Cabin heater
8. High Voltage Battery
9. OPTIONAL: 10 kW on-board slave charger
10. Charge port
11. Rear motor/rear high performace motor



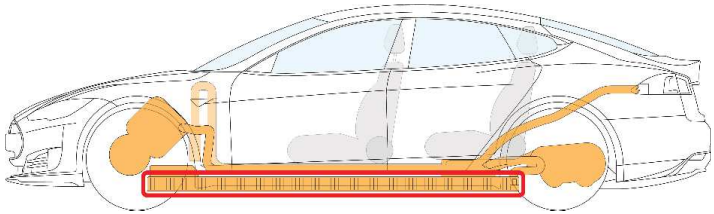
WARNING: After deactivation, the high voltage circuit requires two minutes to deplete.

WARNING: The SRS control unit has a backup power supply with a discharge time of approximately ten seconds.

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.

HIGH VOLTAGE BATTERY

Model S is equipped with a floor-mounted 400 volt lithium-ion high voltage battery. 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.

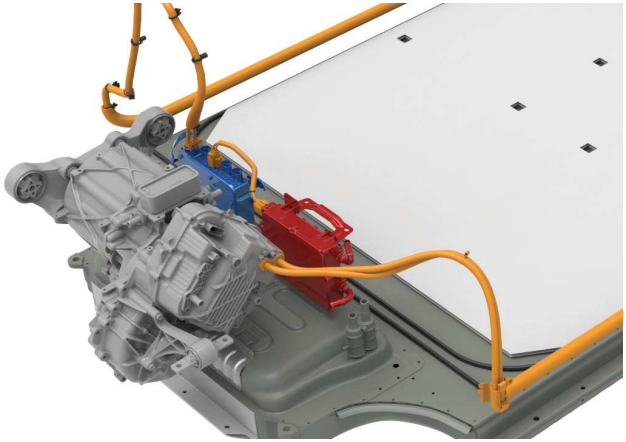


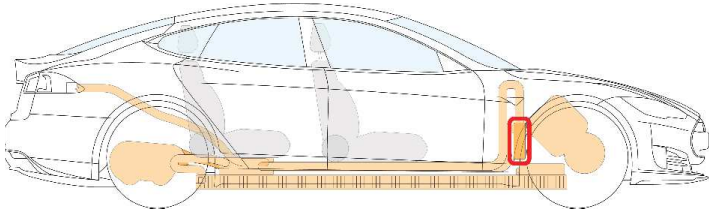
High voltage battery is located below the floor

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.

DC-DC CONVERTER AND FRONT JUNCTION BOX

High voltage is present at the DC-DC converter and front junction box, located behind the front motor. The DC-DC converter transforms the high voltage current from the 400 volt battery to low voltage to charge the Model S 12 volt battery. The front junction box provides power to various components, such as the Battery heater, the air conditioning compressor and the cabin heater. Use caution when cutting in this area during a dash lift (dash roll) procedure—use work-around techniques, if necessary.



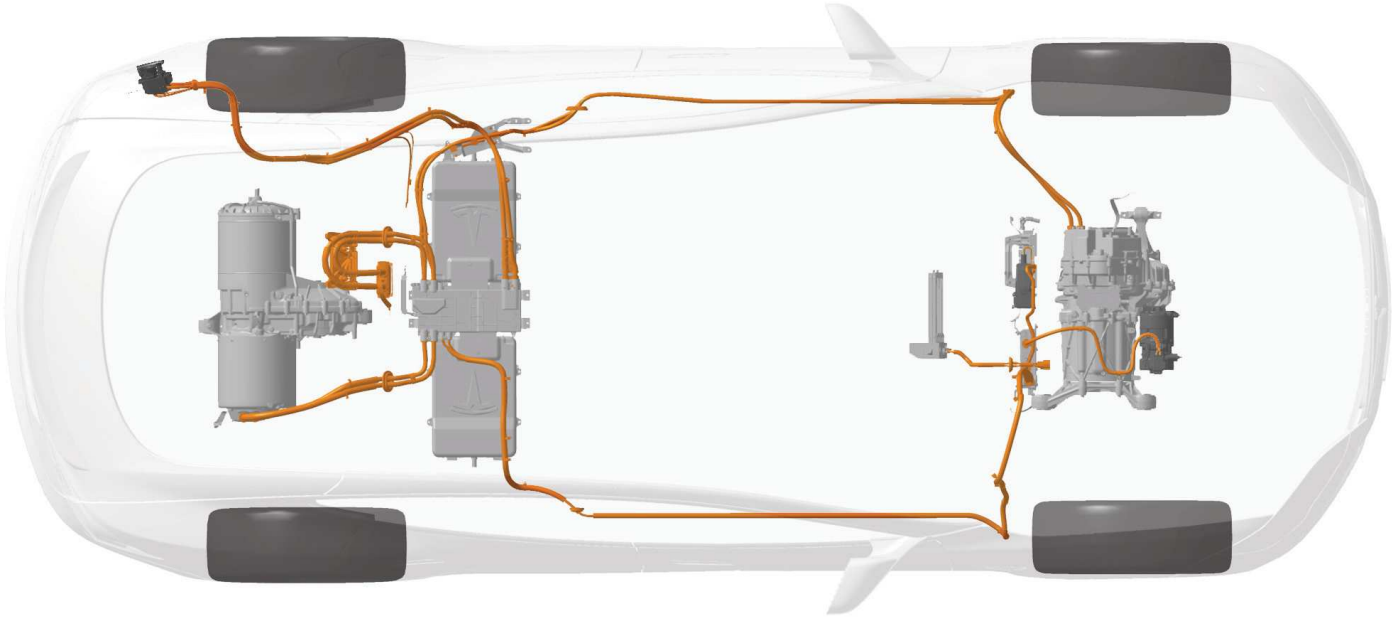


DC-DC converter and front junction box are located behind the front trunk, near the center of the vehicle

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.

HIGH VOLTAGE CABLING

High voltage cabling is highlighted in dark orange in the following illustration.

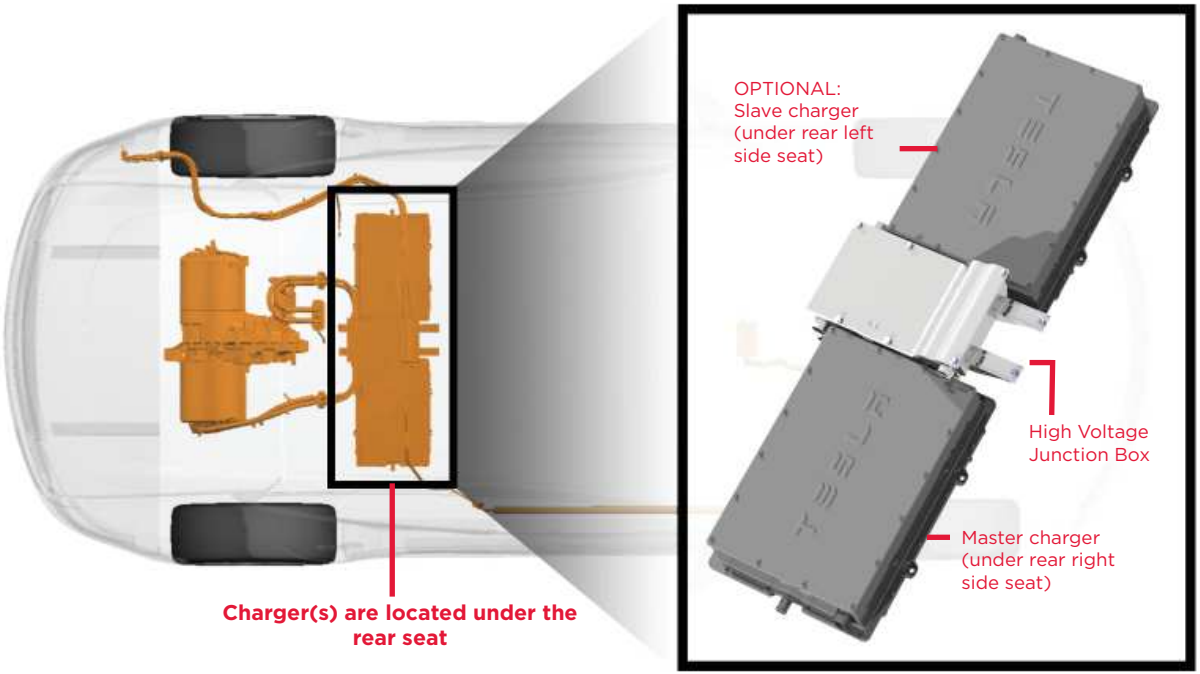


High voltage cabling is routed under the rear seats and inside the rocker panel on the left and right side front

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.

CHARGERS

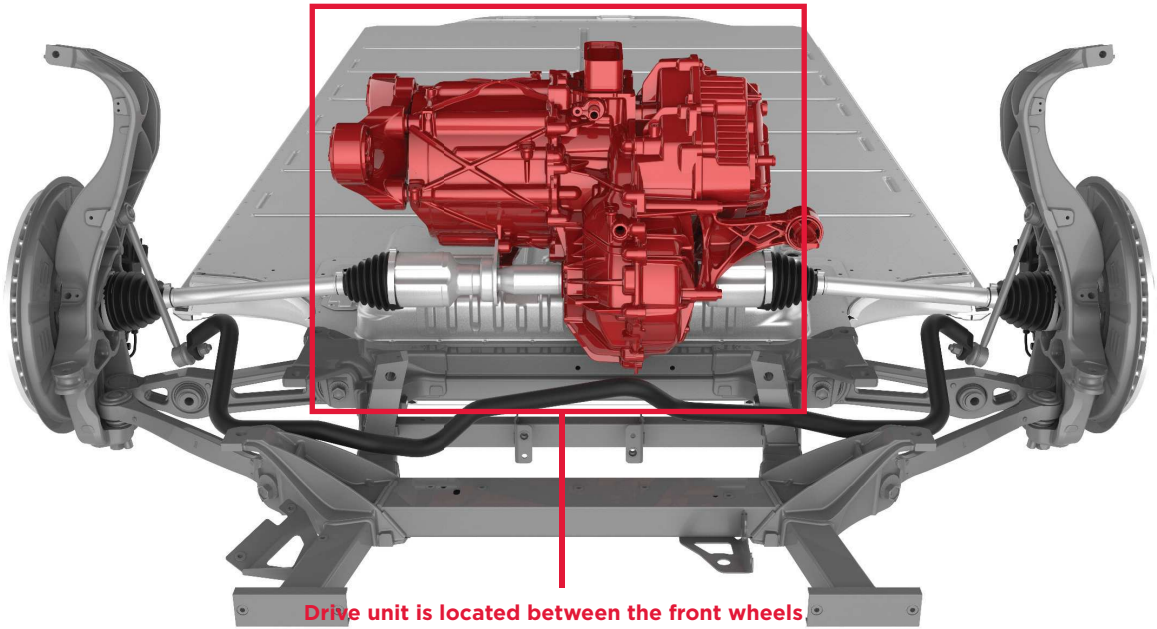
Model S has one (standard) or two (optional) chargers under the rear seat. These chargers convert the AC current from a charging station to DC for charging the high voltage battery. The high voltage junction box, located between the chargers, routes any surplus energy from regenerative braking back to the battery.



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.

FRONT DRIVE UNIT

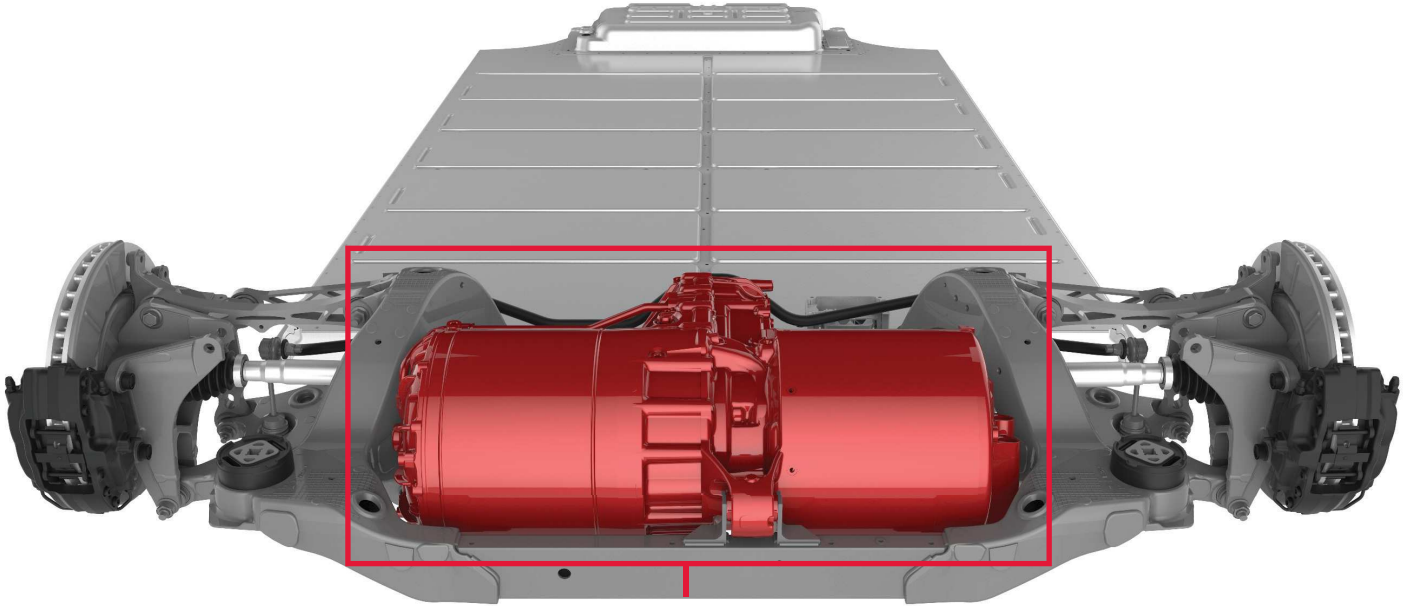
The front drive unit is located between the front wheels in front of the dash panel of the Model S. It converts the DC current from the high voltage battery into the 3-phase AC current that the electric motor uses to power the front wheels.



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.

REAR DRIVE UNIT

The rear drive unit is located between the rear wheels under the floor pan of the Model S (high performance drive unit shown below). It converts the DC current from the high voltage battery into the 3-phase AC current that the electric motor uses to power the rear wheels.



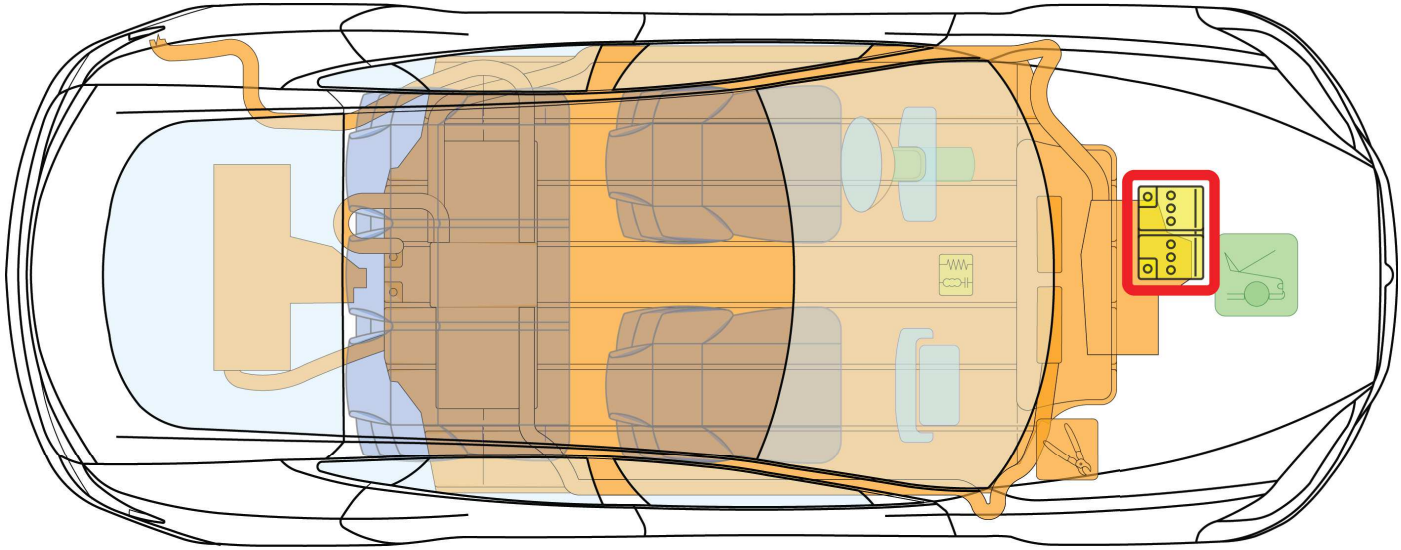
Drive unit is located between the rear wheels

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.

12V BATTERY

In addition to the high voltage system, Model S has a low voltage system, powered by a traditional 12 volt battery. The low voltage system operates the same electrical components found in conventional vehicles, including the supplementary restraint system (SRS), airbags, ignition, touchscreen, and interior and exterior lights.

The low voltage system interacts with the high voltage system. The DC-DC converter supplies the 12V battery with power to support low voltage functions, and the 12V battery supplies power to the high voltage contacts to allow power to flow out of the high voltage battery.



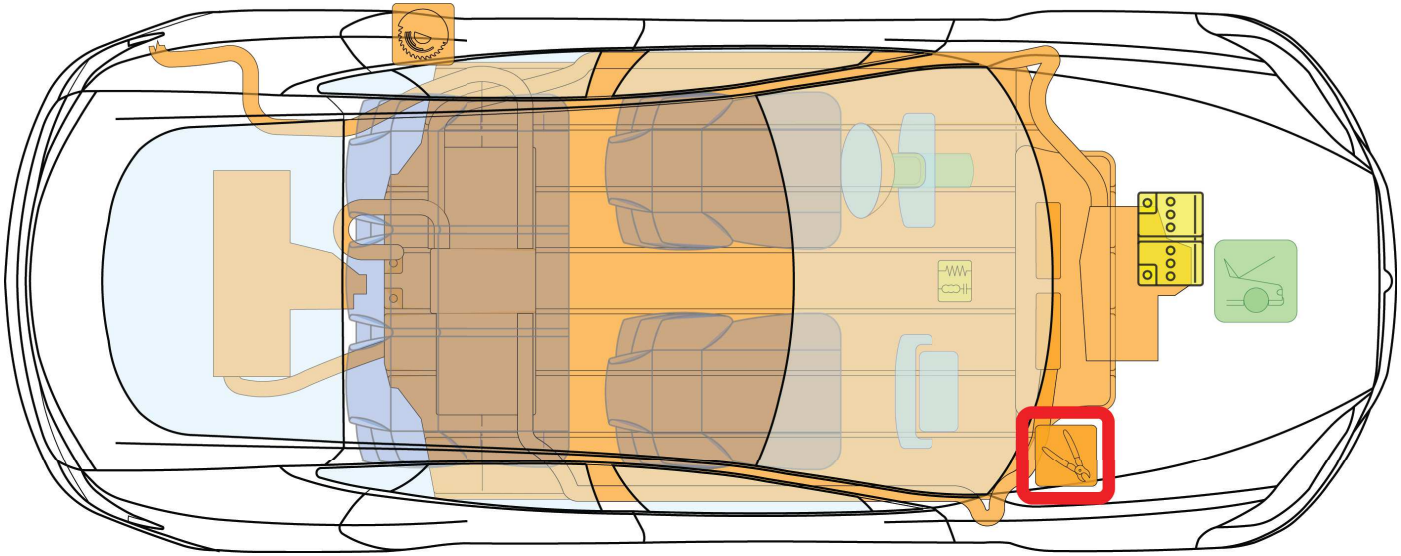
12V battery is located under the hood and the plastic access panel

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.

FIRST RESPONDER CUT LOOP - FRONT TRUNK

The front trunk first responder cut loop consists of low voltage wires. Cutting this loop shuts down the high voltage system and disables the SRS and airbag components. See cut instructions on page 11.

NOTE: When cutting the loop, double cut to remove an entire section. This eliminates the risk of the cut wires accidentally reconnecting.



The front trunk cut loop is located on the right side, under the hood and the plastic access panel

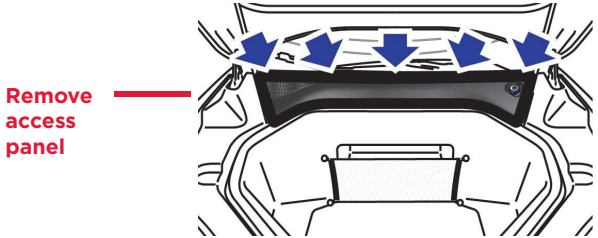
WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

CUTTING THE FIRST RESPONDER CUT LOOP - FRONT TRUNK

STEP 1: Open the hood (also known as the Front Trunk). See page 23 for details.

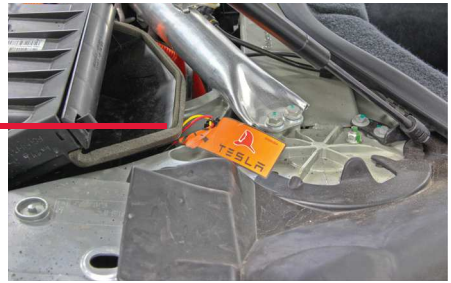
The cut loop is located on the right side. Its label protrudes from under the plastic access panel.

STEP 2: Remove the access panel by pulling its rear edge upward to release the five clips that hold it in place. Maneuver it toward the windshield to remove.



STEP 3: **DOUBLE CUT** the loop to remove an entire section.

Removing an entire section of the cut loop eliminates the risk of the wires accidentally touching (reconnecting).

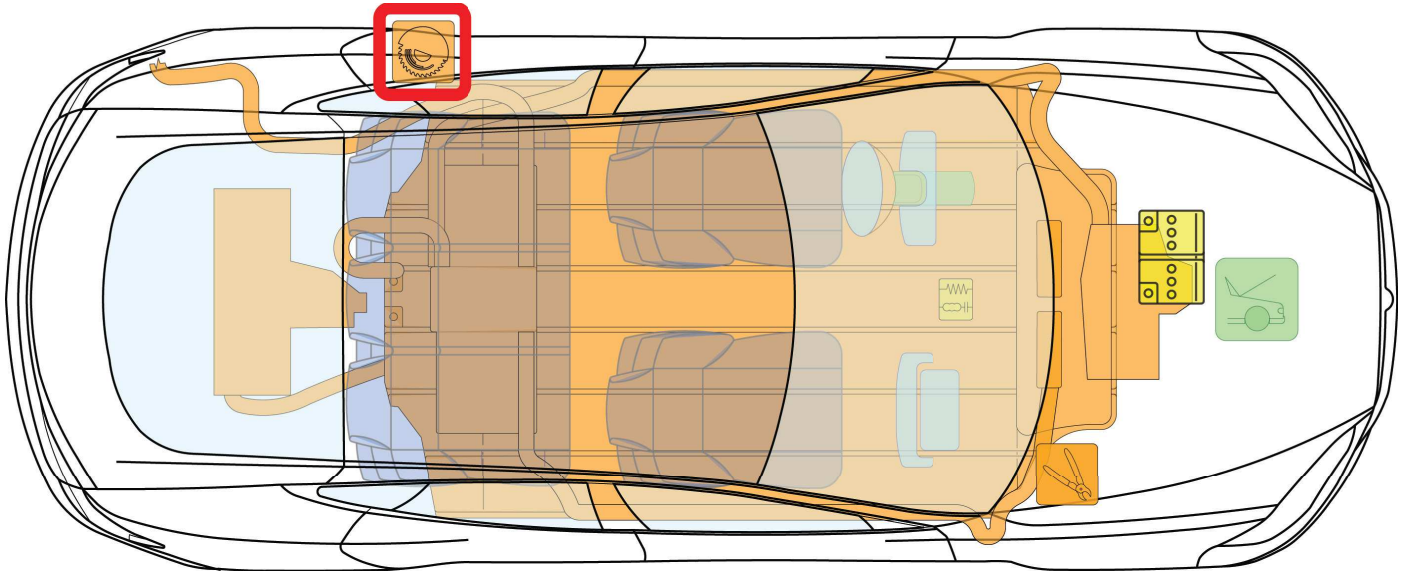


WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

FIRST RESPONDER DISCONNECT POINT - REAR PILLAR

If the front trunk cut loop is inaccessible, the rear pillar disconnect point can shut down the high voltage system and disable the SRS and airbag components in the same manner as the front trunk cut loop. See cut instructions on page 14.

NOTE: Only one point needs to be disconnected, not both.



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.

CUTTING THE FIRST RESPONDER DISCONNECT POINT - REAR PILLAR

STEP 1: Open the rear passenger door closest to the charge port.

The disconnect point is located under the body panel on the outside of the seat. The label indicates where to cut into the body panel.

STEP 2: Use a 12” circular saw to cut 6 in (152 mm) through the label and into the pillar.

Cut loop label

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.

STABILIZING MODEL S

CHOCK ALL FOUR WHEELS

Drivers can choose a setting that determines whether or not Model S will “creep” when a driving gear is selected. If this setting is off, Model S does not move unless the accelerator is pressed, even if shifted into Drive or Reverse. However, never assume that Model S will not move. Always chock the wheels.

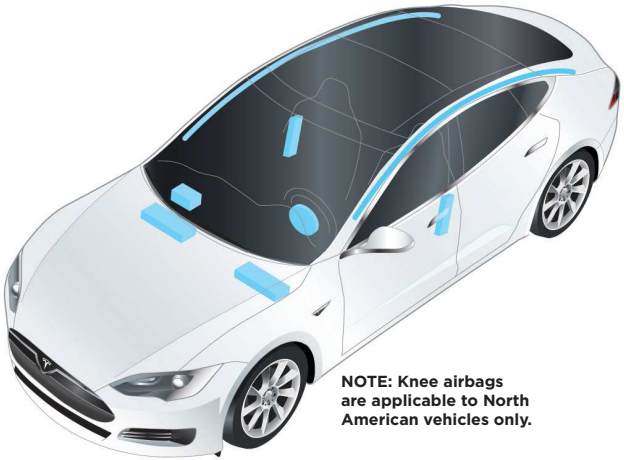
SHIFT INTO PARK

Model S is silent so never assume it is powered off. Pressing the accelerator pedal even slightly can cause Model S to move quickly if the currently active gear is Drive or Reverse. To ensure that the parking brake is engaged, press the button on the end of the gear selector to shift into Park. Whenever Model S is in Park, the parking brake is automatically engaged so that the vehicle will not move if the accelerator pedal is pressed.

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.

AIRBAGS

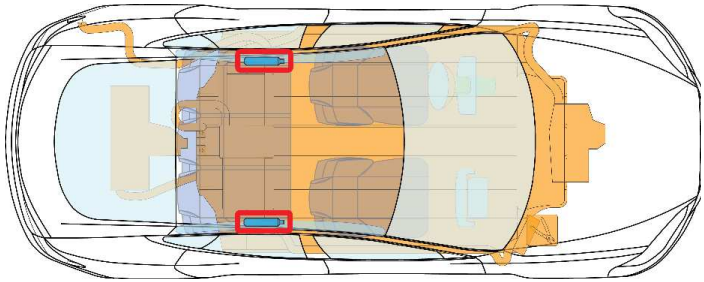
Model S is equipped with six airbags (eight in North America). Responders should de-energize the airbags by cutting the First Responder Cut Loop (see page 11) or Disconnect Point (see page 13). Airbags are shown below in blue.



NOTE: Knee airbags are applicable to North American vehicles only.

AIRBAG INFLATION CYLINDERS

Airbag (stored gas) inflation cylinders are located toward the rear of the vehicle, as shown below in red.

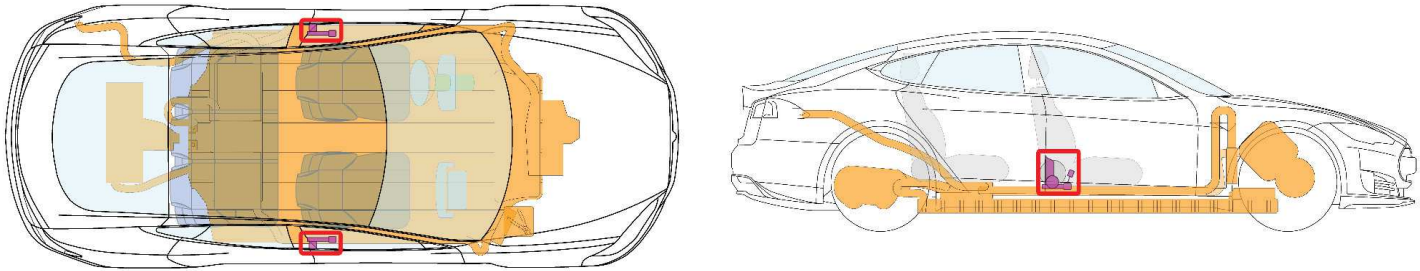


Airbag inflation cylinders are located toward the rear

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.

SEAT BELT PRE-TENSIONERS

Seat belt pre-tensioners are located by the B-pillars, as shown below in red.



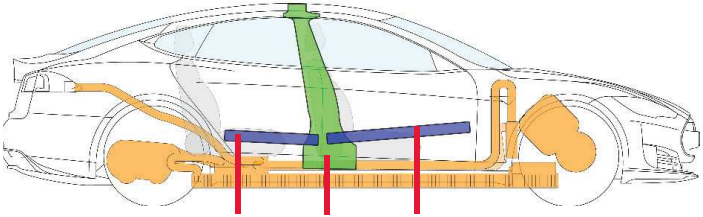
Seat belt pre-tensioners are located by the B-pillars

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.

LOCATION OF REINFORCEMENTS AND HIGH STRENGTH STEEL

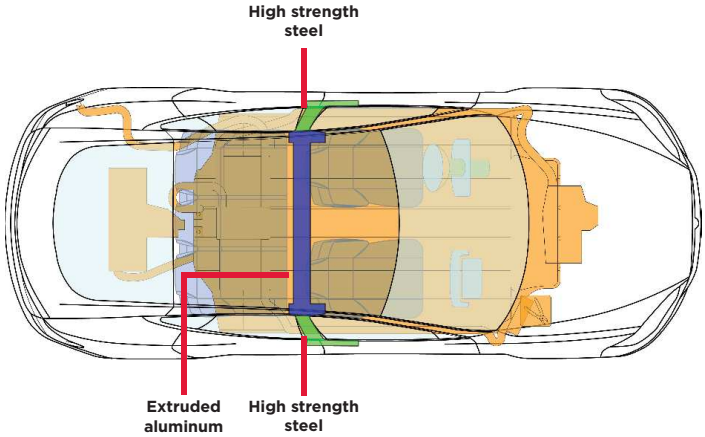
Model S is reinforced to protect occupants in a collision. Reinforcements are shown below in green (high strength steel) and blue (extruded aluminum).

Depending on the tools used, high strength steel can be challenging or impossible to cut. If necessary, use workaround techniques.



Only the side B-pillars are reinforced with high strength steel

The side doors and roof support are reinforced with extruded aluminum

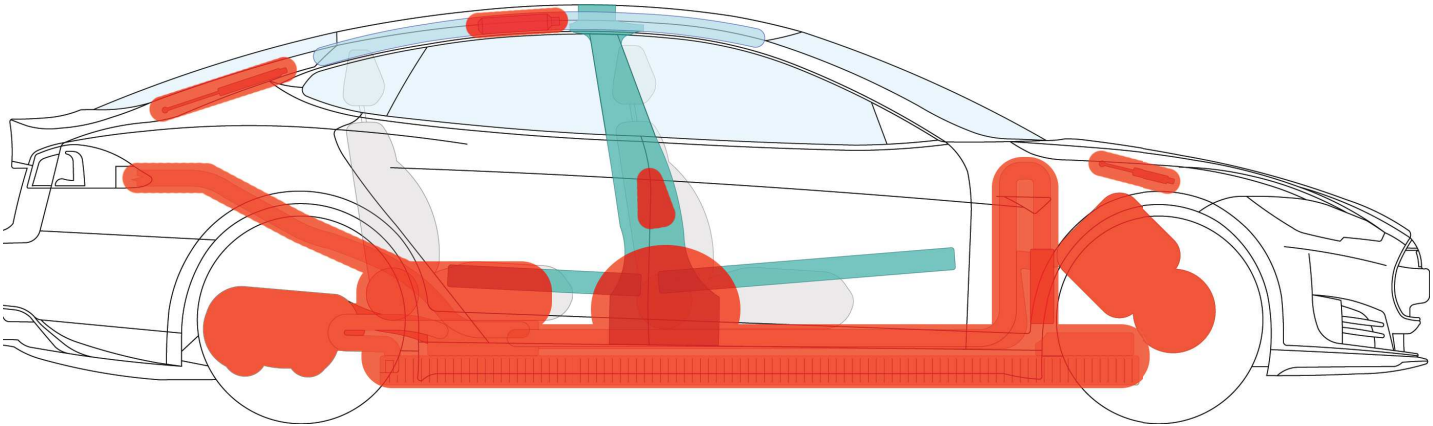


WARNING: Always use appropriate tools (such as a hydraulic cutter), and always wear appropriate personal protective equipment (PPE) when cutting Model S. Failure to follow these instructions can result in serious injury or death.

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.

NO-CUT ZONES

Model S has areas that are defined as “no-cut zones” due to high voltage, gas struts, and SRS or airbag hazards. Never cut or crush these areas—doing so can result in serious injury or death.



Do not cut through areas shown in red

WARNING: Always use appropriate tools (such as a hydraulic cutter), and always wear appropriate personal protective equipment (PPE) when cutting Model S. Failure to follow these instructions can result in serious injury or death.

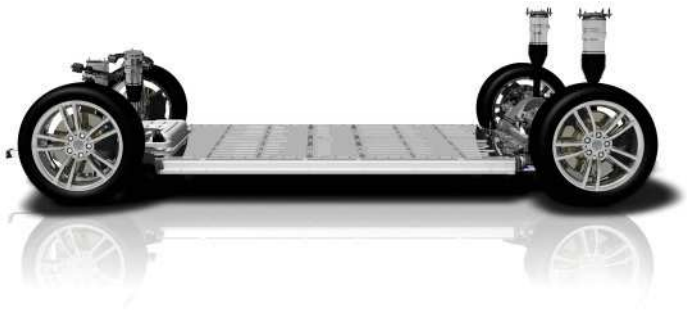
WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

FULLY OR PARTIALLY SUBMERGED VEHICLES

Treat a submerged Model S like any other vehicle. The body of the vehicle does not present a risk of shock in water. However, as a precautionary measure, handle any submerged vehicle while wearing the appropriate personal protective equipment (PPE). Remove the vehicle from the water and continue with normal high voltage disabling.

PUSHING ON THE FLOOR PAN

The high voltage battery is located below the floor pan. Never push down on the floor pan from inside Model S. Doing so can breach the high voltage battery, which can cause serious injury or death.



WARNING: Failure to handle a submerged vehicle without appropriate personal protective equipment (PPE) can result in serious injury or death.

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.

FIREFIGHTING

Extinguish small fires, that do not involve the high voltage battery, using a CO_2 or ABC extinguisher.

During overhaul, do not make contact with any high voltage component. Always use insulated tools for overhaul.

Stored gas inflation cylinders, gas struts, and other components can result in a boiling liquid expanding vapor explosion (BLEVE) in extreme temperatures. Perform an adequate "knock down" on the fire before entering the incident's "hot zone."

If the high voltage battery becomes involved in fire or is bent, twisted, damaged, or breached in any way, or if you suspect that the battery is heating, use large amounts of water to cool the battery. DO NOT extinguish fire with a small amount of water. Always establish or request an additional water supply.

Battery fires can take up to 24 hours to fully extinguish. Consider allowing the vehicle to burn while protecting exposures.

Use a thermal imaging camera to ensure the high voltage battery is completely cooled before leaving the incident. If a thermal imaging camera is not available, you must monitor the battery for re-ignition. Smoke indicates that the battery is still heating. Do not release the vehicle to second responders until there has been no sign of smoke from the battery for at least one hour.

Always advise second responders (law enforcement, tow personnel) that there is a risk of the battery re-igniting. After a Model S has been involved in a submersion, fire, or a collision that has compromised the high voltage battery, always store it in an open area with no exposures within 50 feet.

HIGH VOLTAGE BATTERY - FIRE DAMAGE

A burning or heating battery releases toxic vapors. These vapors include sulfuric acid, oxides of carbon, nickel, aluminum, lithium, copper, and cobalt. Responders should wear full personal protective equipment (PPE), including self-contained breathing apparatus (SCBA), and take appropriate measures to protect civilians downwind from the incident. Use fog streams or positive pressure ventilation (PPV) fans to direct vapors.

The high voltage battery consists of lithium-ion cells. These are considered dry cell batteries. If damaged, only a small amount of battery fluid can leak. Lithium-ion battery fluid is clear in color.

The high voltage battery, the drive unit, the charge controllers, and the DC-DC converter are liquid cooled with typical glycol-based coolant. If damaged, blue fluid can leak out of the battery.

A damaged high voltage battery can cause rapid heating of the battery cells. If you notice smoke coming from the battery area, assume the battery is heating and take appropriate action as described under the heading "FIREFIGHTING" on this page.

WARNING: When fire is involved, consider the entire vehicle energized and DO NOT TOUCH any part of the vehicle. Always wear full PPE, including SCBA.

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.

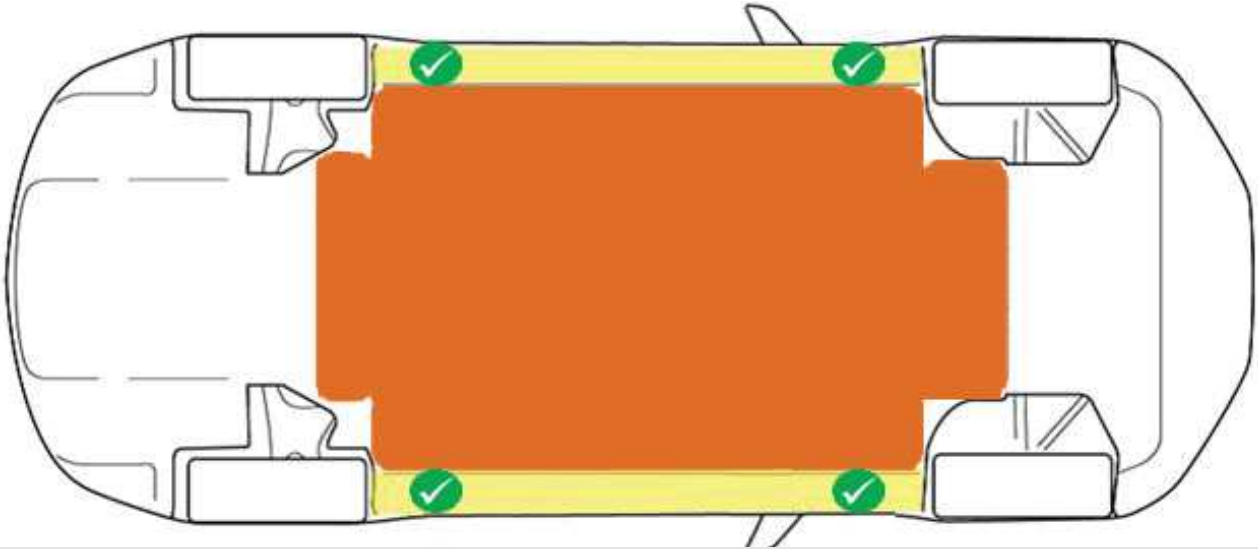
LIFT AREAS

The high voltage battery is located below the floor, under a floor pan. A large section of the undercarriage houses this battery. When lifting Model S, do not push on the high voltage battery. When lifting or jacking, use only the designated lifting areas.

✓ Appropriate lifting locations

Yellow Safe stabilization points for a side-resting Model S

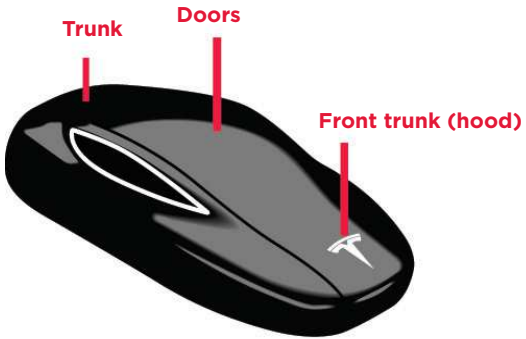
Orange High voltage battery. **DO NOT USE THIS AREA TO LIFT OR STABILIZE MODEL S!**



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.

USING THE KEY

Use the key's buttons as shown below.



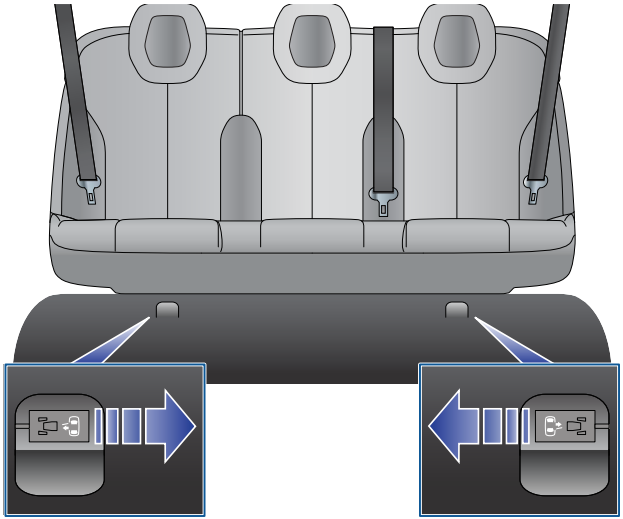
OPENING DOORS

Model S has unique door handles. Under normal conditions, when you press a handle, it extends* to allow you to open the door.

If door handles do not function, open the door manually by reaching inside the window and using the interior handle.

OPENING REAR DOORS WITH NO POWER

Open rear doors from inside by folding back the edge of the carpet below the rear seats to access the mechanical release cable. Pull the mechanical release cable toward the center.

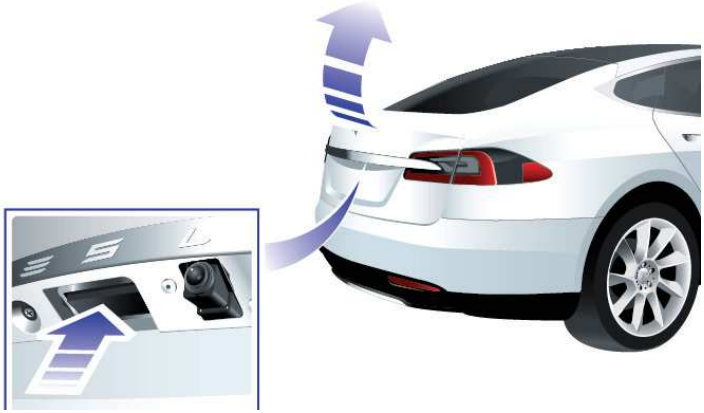


*NOTE: When an airbag inflates, Model S unlocks all doors, unlocks the trunk, and extends all door handles.

OPENING THE TRUNK

Use one of the following methods:

- Press the switch located under the handle.
- Touch Trunk on the touchscreen CONTROLS window.
- Double-click the trunk button on the key.



OPENING THE HOOD (FRONT TRUNK)

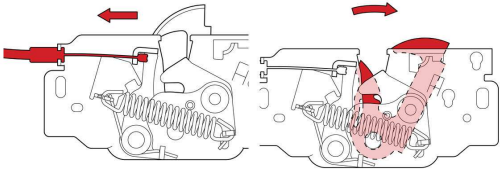
Model S does not have a traditional engine. Therefore, the area that would normally house the engine is used as additional storage space. Tesla calls this area the “Front Trunk” or “Frunk”.

To open the hood electronically, use one of the following methods:

- Touch Front Trunk on the touchscreen.
- Double-click the Front Trunk (hood) button on the key.

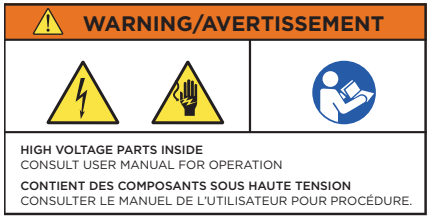
To open the hood manually, perform the following steps:

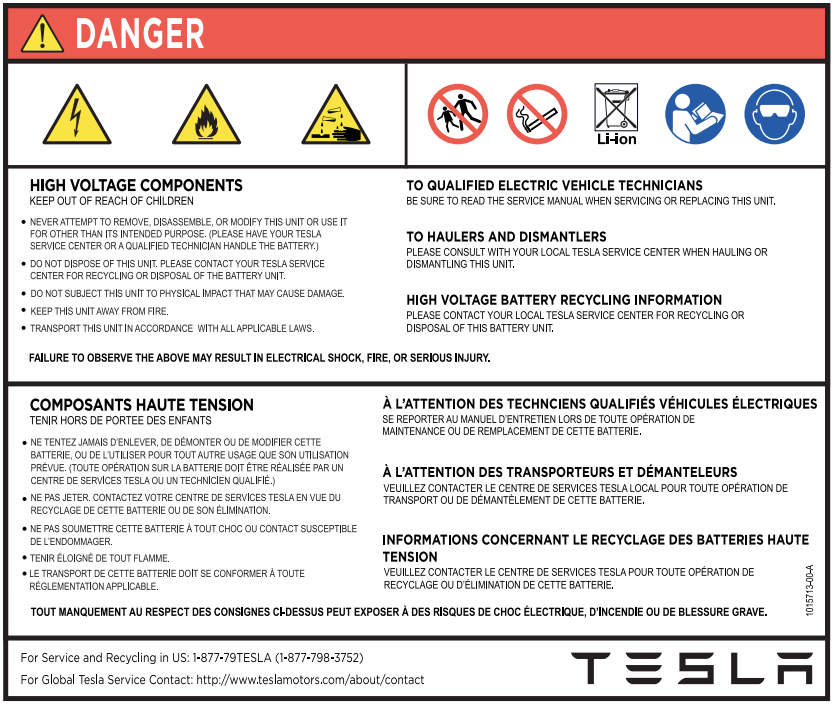
1. Pry the nose cone toward you using a plastic pry tool in the top right corner.
   NOTE: A cable is connected to the rear of the nose cone.
2. Pull the primary release lever under the front middle of the hood to the left.
3. Push the secondary release lever under the front middle of the hood to the right and push up on the hood to open it.



HIGH VOLTAGE LABELS

Vehicle labels associated with high voltage components are shown below. These are examples only. Depending on the region, these labels may be translated into other languages.





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.

3500 Deer Creek Road
Palo Alto, CA 94304

2014

MODEL S

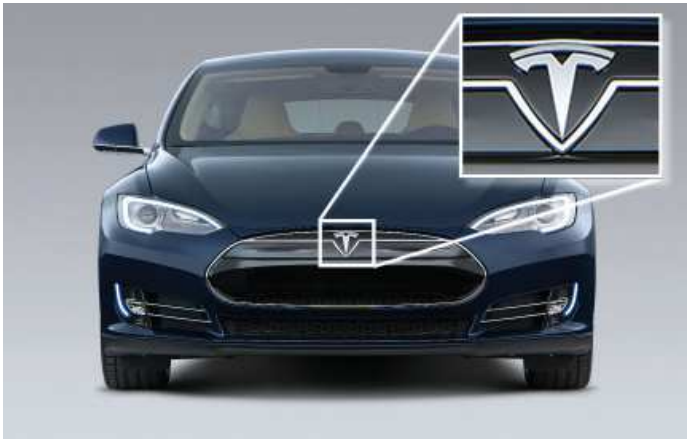
EMERGENCY RESPONSE GUIDE

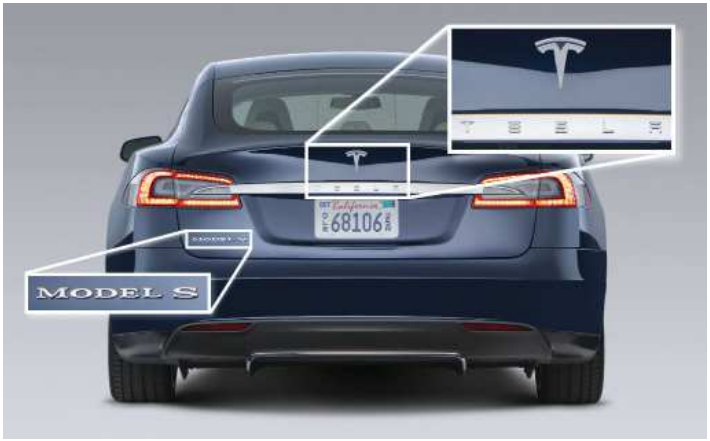
This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle the fully electric Model S in an emergency situation. It describes how to identify Model S, and provides the locations and descriptions of its high voltage components, airbags, inflation cylinders, seat belt pre-tensioners, and high strength materials used in its body structure. This guide includes the high voltage disabling procedure and any safety considerations specific to Model S. Failure to follow recommended practices or procedures can result in serious injury or death.

The high voltage battery is the main energy source. Model S does not have a traditional gasoline or diesel engine and therefore does not have a fuel tank.

BADGING

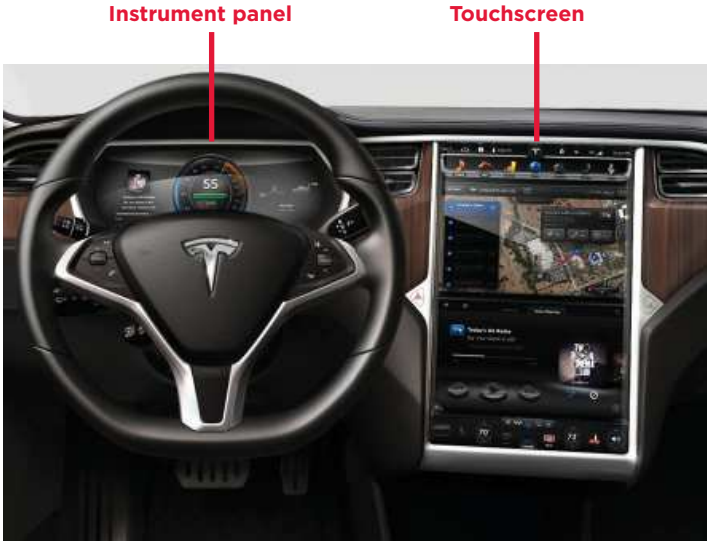
Model S has three main badges to distinguish it.





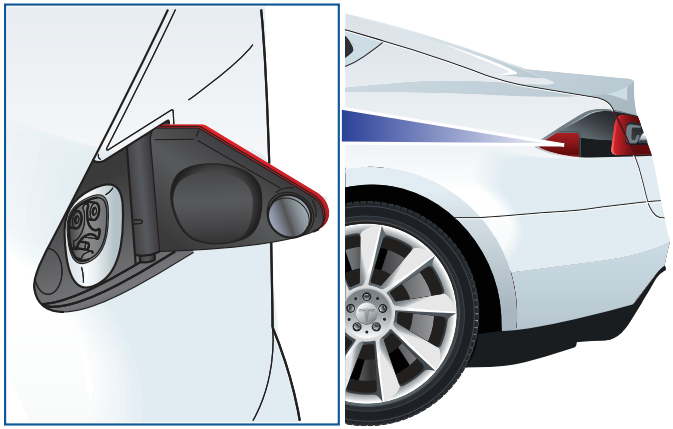
LARGE SCREEN

Model S has a large 17” touchscreen.



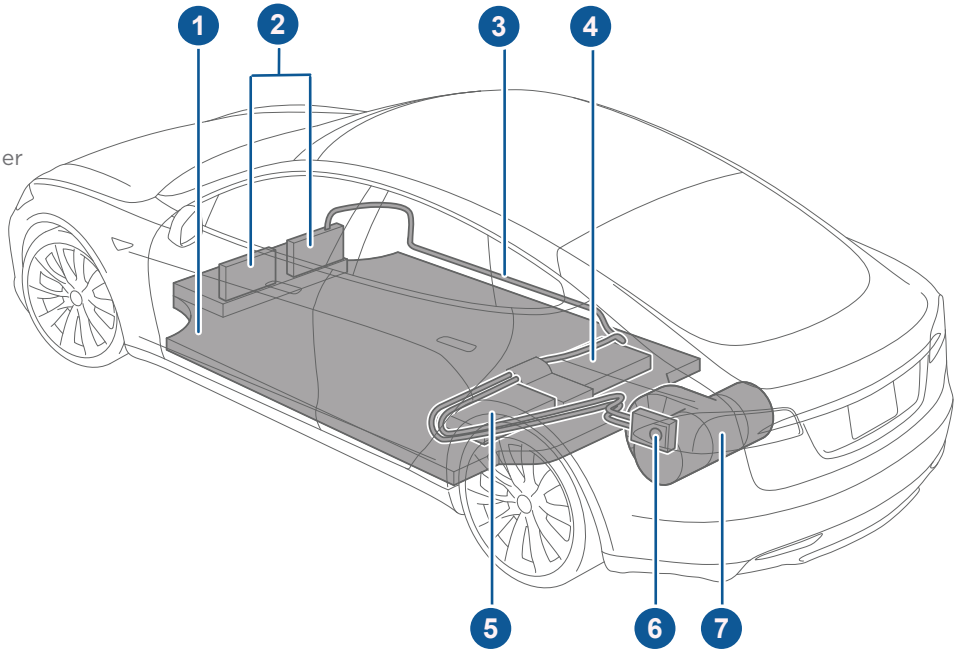
CHARGE PORT

Model S has a charge port that is integrated into the taillight on the rear left side fender.



OVERVIEW OF HIGH VOLTAGE COMPONENTS

1. High Voltage Battery
2. DC-DC converter and front junction box
3. High voltage cabling (colored orange)
4. 10 kW on-board master charger
5. OPTIONAL: 10 kW on-board slave charger
6. Charge port
7. Drive unit



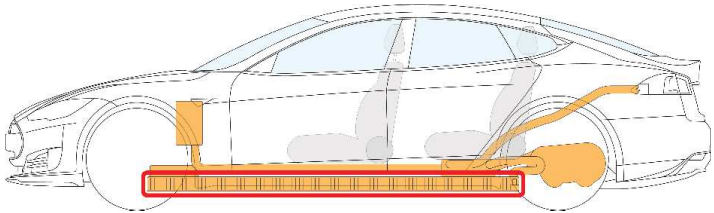
WARNING: After deactivation, the high voltage circuit requires two minutes to deplete.

WARNING: The SRS control unit has a backup power supply with a discharge time of approximately ten seconds.

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.

HIGH VOLTAGE BATTERY

Model S is equipped with a floor-mounted 400 volt lithium-ion high voltage battery. 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.

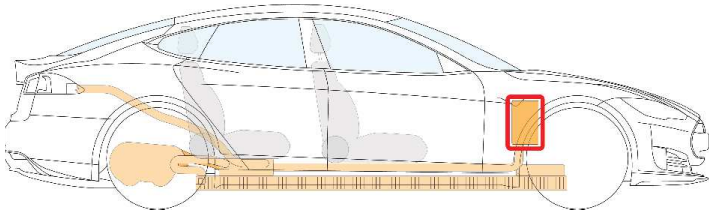


High voltage battery is located below the floor

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.

DC-DC CONVERTER AND FRONT JUNCTION BOX

High voltage is present at the DC-DC converter and front junction box, located behind the front trunk. The DC-DC converter transforms the high voltage current from the 400 volt battery to low voltage to charge the Model S 12 volt battery. The front junction box provides power to various components, such as the Battery heater, the air conditioning compressor and the cabin heater. Use caution when cutting in this area during a dash lift (dash roll) procedure—use work-around techniques, if necessary.

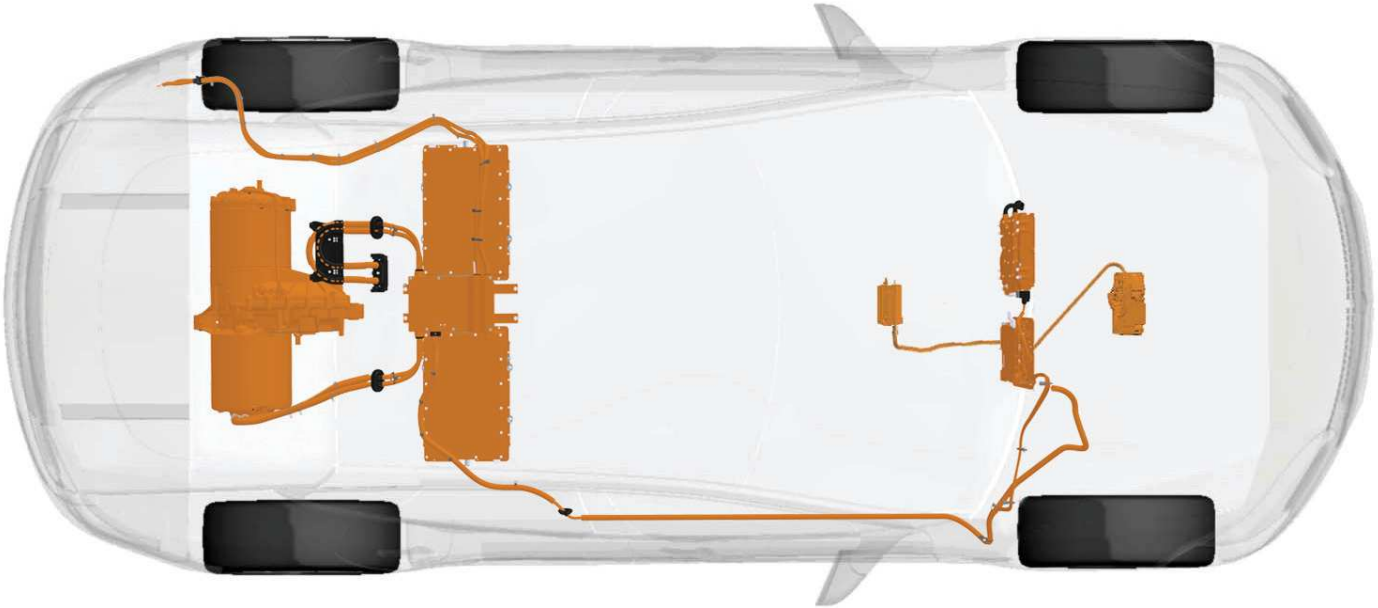


DC-DC converter and front junction box are located behind the front trunk, near the center of the vehicle

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.

HIGH VOLTAGE CABLING

High voltage cabling is highlighted in dark orange in the following illustration.

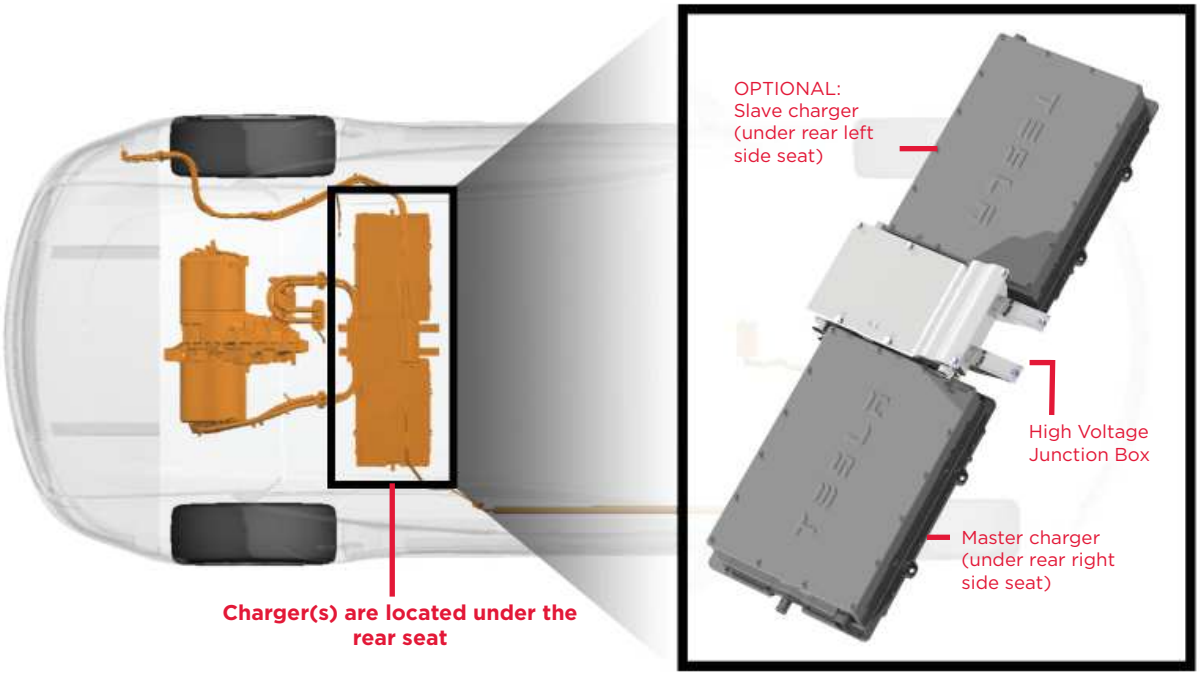


High voltage cabling is routed under the rear seats and inside the rocker panel on the right side front

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.

CHARGERS

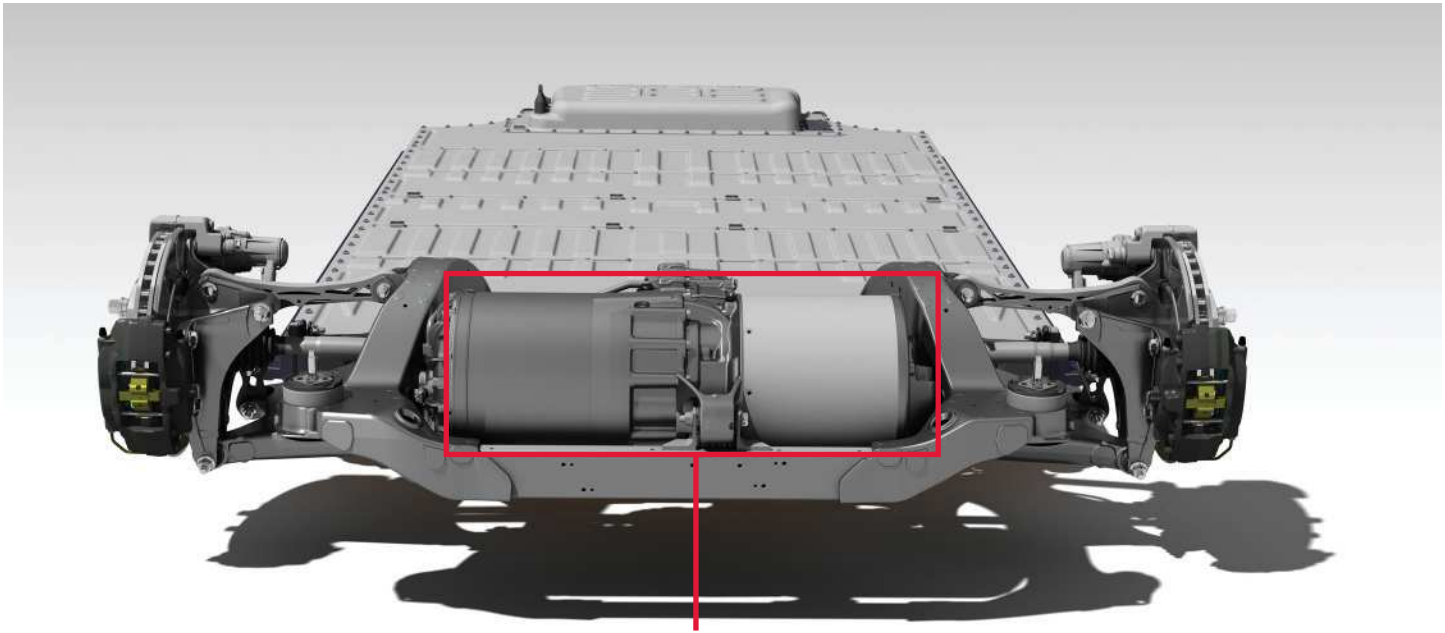
Model S has one (standard) or two (optional) chargers under the rear seat. These chargers convert the AC current from a charging station to DC for charging the high voltage battery. The high voltage junction box, located between the chargers, routes any surplus energy from regenerative braking back to the battery.



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.

DRIVE UNIT

The drive unit is located between the rear wheels under the floor pan of the Model S. It converts the DC current from the high voltage battery into the 3-phase AC current that the electric motor uses to power the wheels.



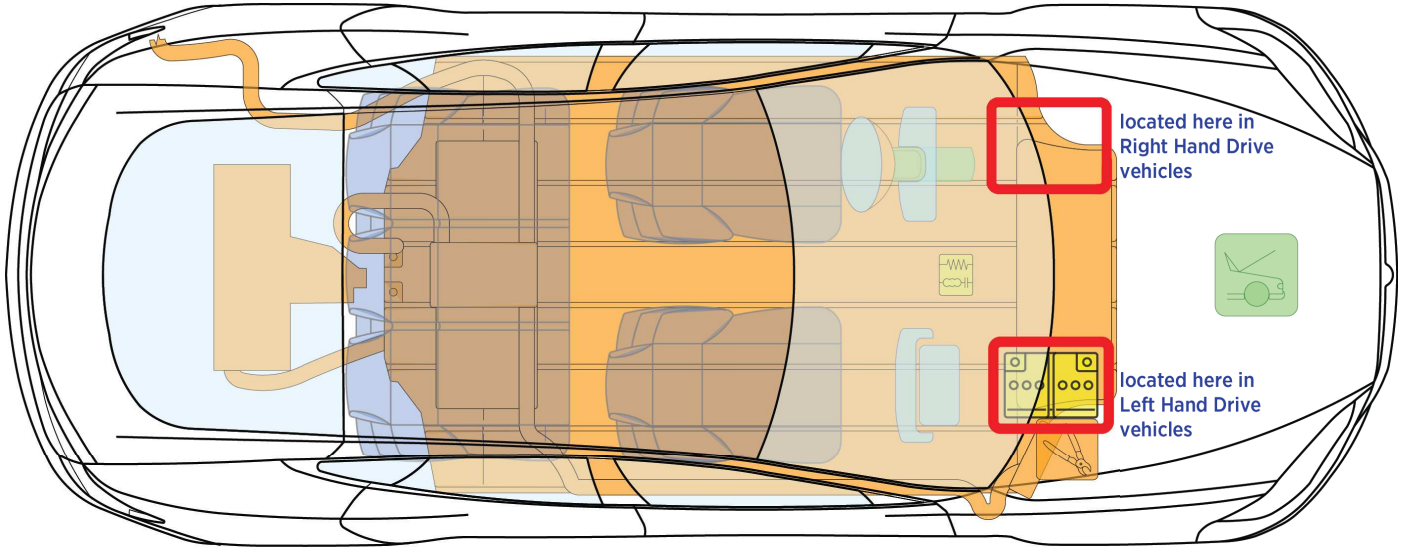
Drive unit is located between the rear wheels

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.

12V BATTERY

In addition to the high voltage system, Model S has a low voltage system, powered by a traditional 12 volt battery. The low voltage system operates the same electrical components found in conventional vehicles, including the supplementary restraint system (SRS), airbags, ignition, touchscreen, and interior and exterior lights.

The low voltage system interacts with the high voltage system. The DC-DC converter supplies the 12V battery with power to support low voltage functions, and the 12V battery supplies power to the high voltage contacts to allow power to flow out of the high voltage battery.



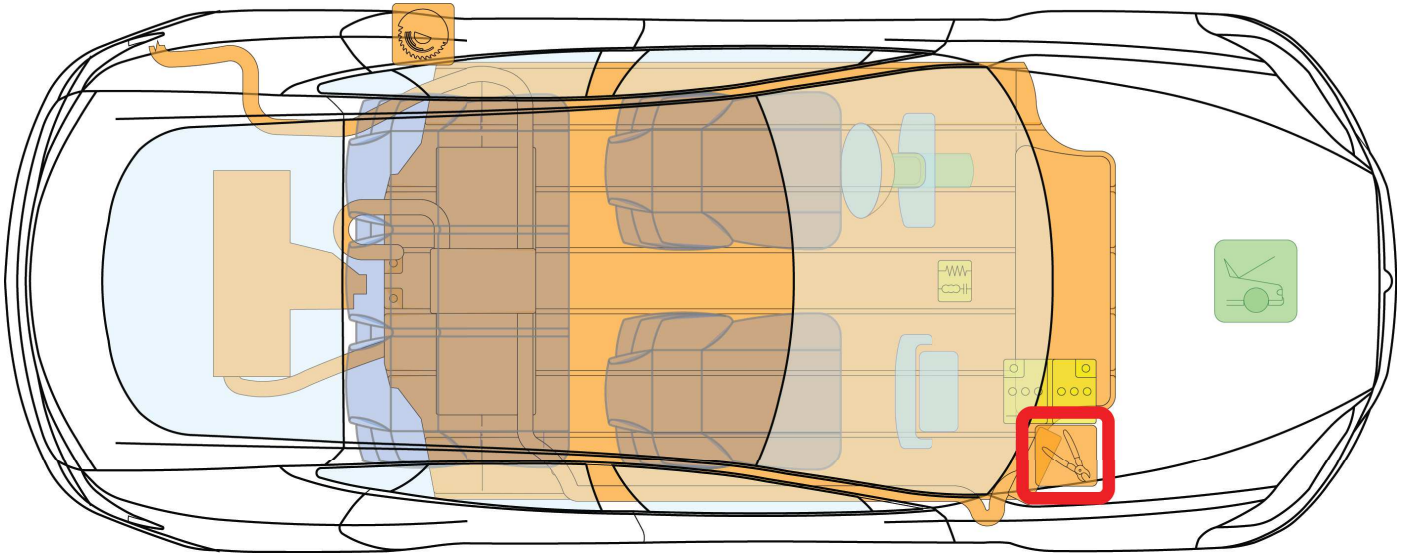
12V battery is located under the hood and the plastic access panel

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.

FIRST RESPONDER CUT LOOP - FRONT TRUNK

The front trunk first responder cut loop consists of low voltage wires. Cutting this loop shuts down the high voltage system and disables the SRS and airbag components. See cut instructions on page 11.

NOTE: When cutting the loop, double cut to remove an entire section. This eliminates the risk of the cut wires accidentally reconnecting.



The front trunk cut loop is located on the right side, under the hood and the plastic access panel

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.

CUTTING THE FIRST RESPONDER CUT LOOP - FRONT TRUNK

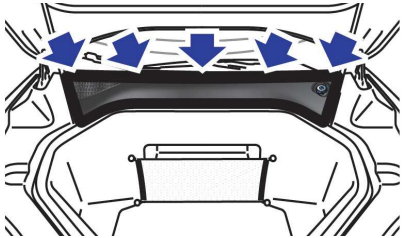
STEP 1: Open the hood (also known as the Front Trunk). See page 23 for details.

The cut loop is located on the right side. Its label protrudes from under the plastic access panel.

Cut loop label

STEP 2: Remove the access panel by pulling its rear edge upward to release the five clips that hold it in place. Maneuver it toward the windshield to remove.

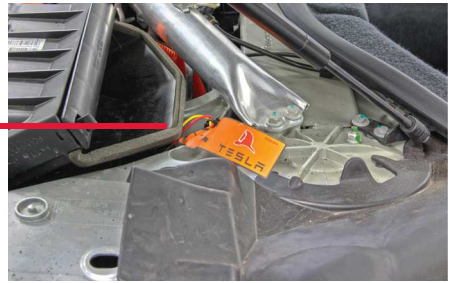
Remove access panel



STEP 3: **DOUBLE CUT** the loop to remove an entire section.

Removing an entire section of the cut loop eliminates the risk of the wires accidentally touching (reconnecting).

Double cut the loop

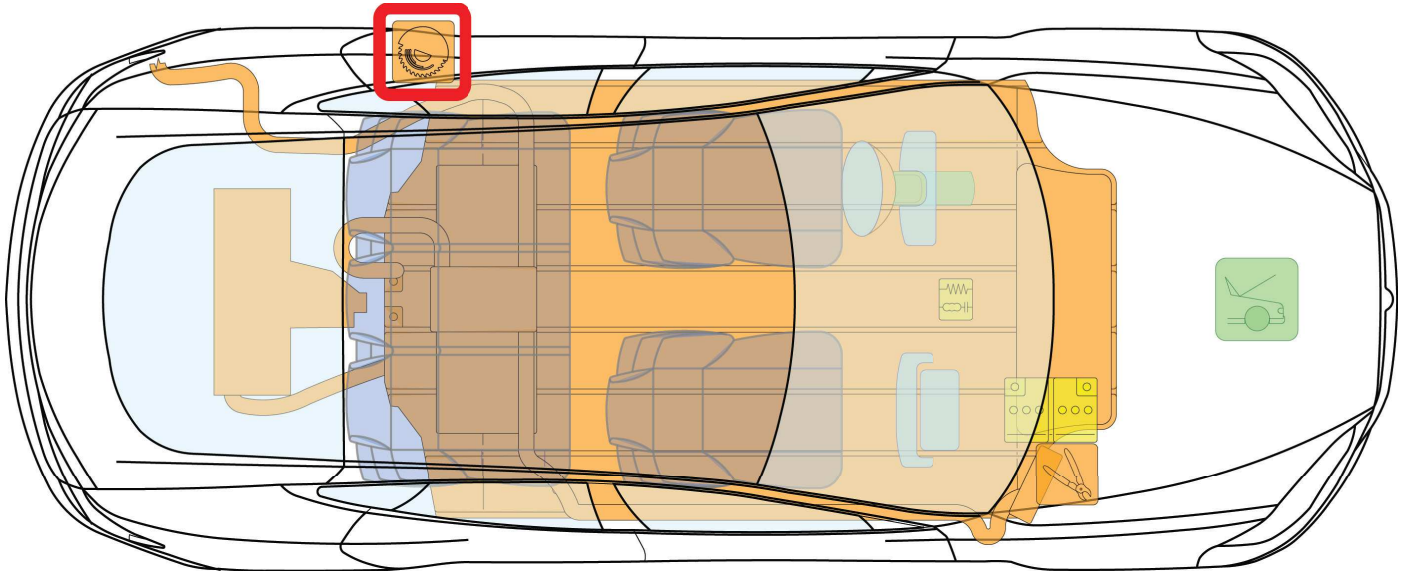


WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

FIRST RESPONDER DISCONNECT POINT - REAR PILLAR

If the front trunk cut loop is inaccessible, the rear pillar disconnect point can shut down the high voltage system and disable the SRS and airbag components in the same manner as the front trunk cut loop. See cut instructions on page 13.

NOTE: Only one point needs to be disconnected, not both.



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.

CUTTING THE FIRST RESPONDER DISCONNECT POINT - REAR PILLAR

STEP 1: Open the rear passenger door closest to the charge port.

The disconnect point is located under the body panel on the outside of the seat. The label indicates where to cut into the body panel.

STEP 2: Use a 12” circular saw to cut 6 in (152 mm) through the label and into the pillar.

Cut loop label

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.

STABILIZING MODEL S

CHOCK ALL FOUR WHEELS

Drivers can choose a setting that determines whether or not Model S will “creep” when a driving gear is selected. If this setting is off, Model S does not move unless the accelerator is pressed, even if shifted into Drive or Reverse. However, never assume that Model S will not move. Always chock the wheels.

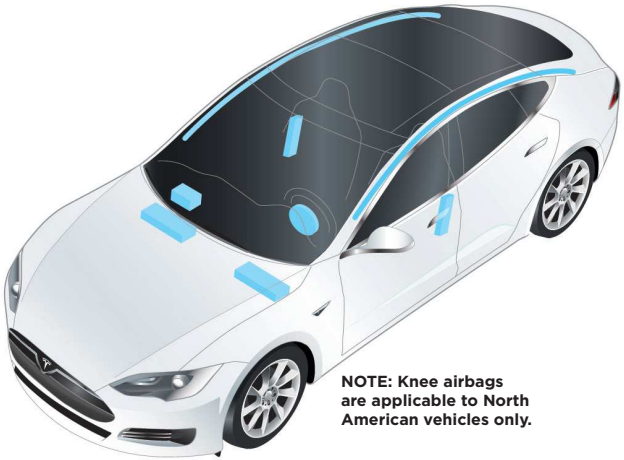
SHIFT INTO PARK

Model S is silent so never assume it is powered off. Pressing the accelerator pedal even slightly can cause Model S to move quickly if the currently active gear is Drive or Reverse. To ensure that the parking brake is engaged, press the button on the end of the gear selector to shift into Park. Whenever Model S is in Park, the parking brake is automatically engaged so that the vehicle will not move if the accelerator pedal is pressed.

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.

AIRBAGS

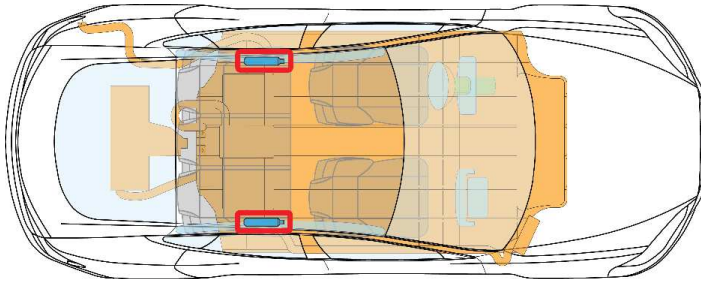
Model S is equipped with six airbags (eight in North America). Responders should de-energize the airbags by cutting the First Responder Cut Loop (see page 11) or Disconnect Point (see page 13). Airbags are shown below in blue.



NOTE: Knee airbags are applicable to North American vehicles only.

AIRBAG INFLATION CYLINDERS

Airbag (stored gas) inflation cylinders are located toward the rear of the vehicle, as shown below in red.

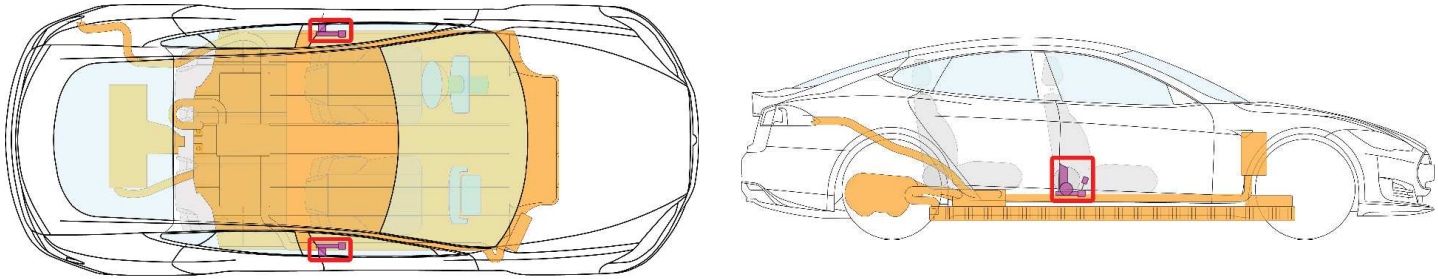


Airbag inflation cylinders are located toward the rear

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.

SEAT BELT PRE-TENSIONERS

Seat belt pre-tensioners are located by the B-pillars, as shown below in red.



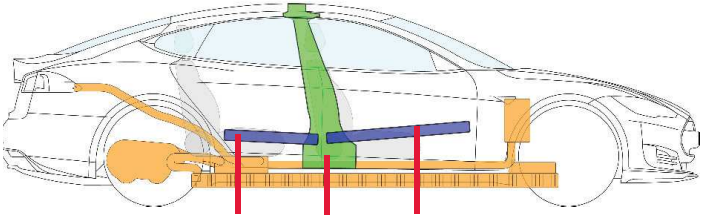
Seat belt pre-tensioners are located by the B-pillars

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.

LOCATION OF REINFORCEMENTS AND HIGH STRENGTH STEEL

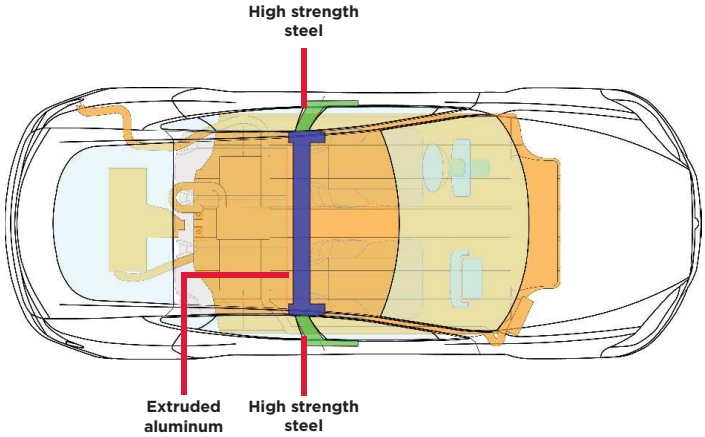
Model S is reinforced to protect occupants in a collision. Reinforcements are shown below in green (high strength steel) and blue (extruded aluminum).

Depending on the tools used, high strength steel can be challenging or impossible to cut. If necessary, use workaround techniques.



Only the side B-pillars are reinforced with high strength steel

The side doors and roof support are reinforced with extruded aluminum

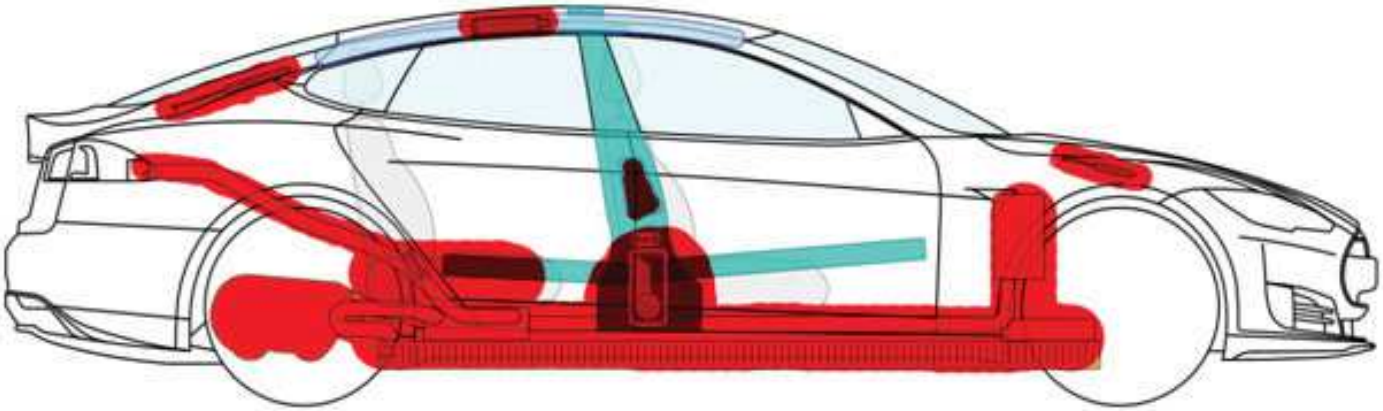


WARNING: Always use appropriate tools (such as a hydraulic cutter), and always wear appropriate personal protective equipment (PPE) when cutting Model S. Failure to follow these instructions can result in serious injury or death.

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.

NO-CUT ZONES

Model S has areas that are defined as “no-cut zones” due to high voltage, gas struts, and SRS or airbag hazards. Never cut or crush these areas—doing so can result in serious injury or death.



Do not cut through areas shown in red

WARNING: Always use appropriate tools (such as a hydraulic cutter), and always wear appropriate personal protective equipment (PPE) when cutting Model S. Failure to follow these instructions can result in serious injury or death.

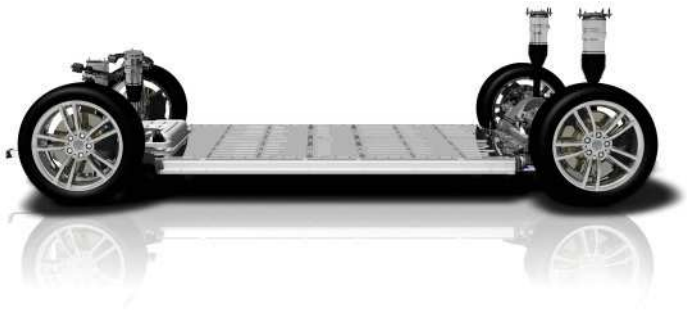
WARNING: Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing or touching high voltage components can result in serious injury or death.

FULLY OR PARTIALLY SUBMERGED VEHICLES

Treat a submerged Model S like any other vehicle. The body of the vehicle does not present a risk of shock in water. However, as a precautionary measure, handle any submerged vehicle while wearing the appropriate personal protective equipment (PPE). Remove the vehicle from the water and continue with normal high voltage disabling.

PUSHING ON THE FLOOR PAN

The high voltage battery is located below the floor pan. Never push down on the floor pan from inside Model S. Doing so can breach the high voltage battery, which can cause serious injury or death.



WARNING: Failure to handle a submerged vehicle without appropriate personal protective equipment (PPE) can result in serious injury or death.

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.

FIREFIGHTING

Extinguish small fires, that do not involve the high voltage battery, using a CO_2 or ABC extinguisher.

During overhaul, do not make contact with any high voltage component. Always use insulated tools for overhaul.

Stored gas inflation cylinders, gas struts, and other components can result in a boiling liquid expanding vapor explosion (BLEVE) in extreme temperatures. Perform an adequate “knock down” on the fire before entering the incident’s “hot zone.”

If the high voltage battery becomes involved in fire or is bent, twisted, damaged, or breached in any way, or if you suspect that the battery is heating, use large amounts of water to cool the battery. DO NOT extinguish fire with a small amount of water. Always establish or request an additional water supply.

Battery fires can take up to 24 hours to fully extinguish. Consider allowing the vehicle to burn while protecting exposures.

Use a thermal imaging camera to ensure the high voltage battery is completely cooled before leaving the incident. If a thermal imaging camera is not available, you must monitor the battery for re-ignition. Smoke indicates that the battery is still heating. Do not release the vehicle to second responders until there has been no sign of smoke from the battery for at least one hour.

Always advise second responders (law enforcement, tow personnel) that there is a risk of the battery re-igniting. After a Model S has been involved in a submersion, fire, or a collision that has compromised the high voltage battery, always store it in an open area with no exposures within 50 feet.

HIGH VOLTAGE BATTERY - FIRE DAMAGE

A burning or heating battery releases toxic vapors. These vapors include sulfuric acid, oxides of carbon, nickel, aluminum, lithium, copper, and cobalt. Responders should wear full personal protective equipment (PPE), including self-contained breathing apparatus (SCBA), and take appropriate measures to protect civilians downwind from the incident. Use fog streams or positive pressure ventilation (PPV) fans to direct vapors.

The high voltage battery consists of lithium-ion cells. These are considered dry cell batteries. If damaged, only a small amount of battery fluid can leak. Lithium-ion battery fluid is clear in color.

The high voltage battery, the drive unit, the charge controllers, and the DC-DC converter are liquid cooled with typical glycol-based coolant. If damaged, blue fluid can leak out of the battery.

A damaged high voltage battery can cause rapid heating of the battery cells. If you notice smoke coming from the battery area, assume the battery is heating and take appropriate action as described under the heading “FIREFIGHTING” on this page.

WARNING: When fire is involved, consider the entire vehicle energized and DO NOT TOUCH any part of the vehicle. Always wear full PPE, including SCBA.

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.

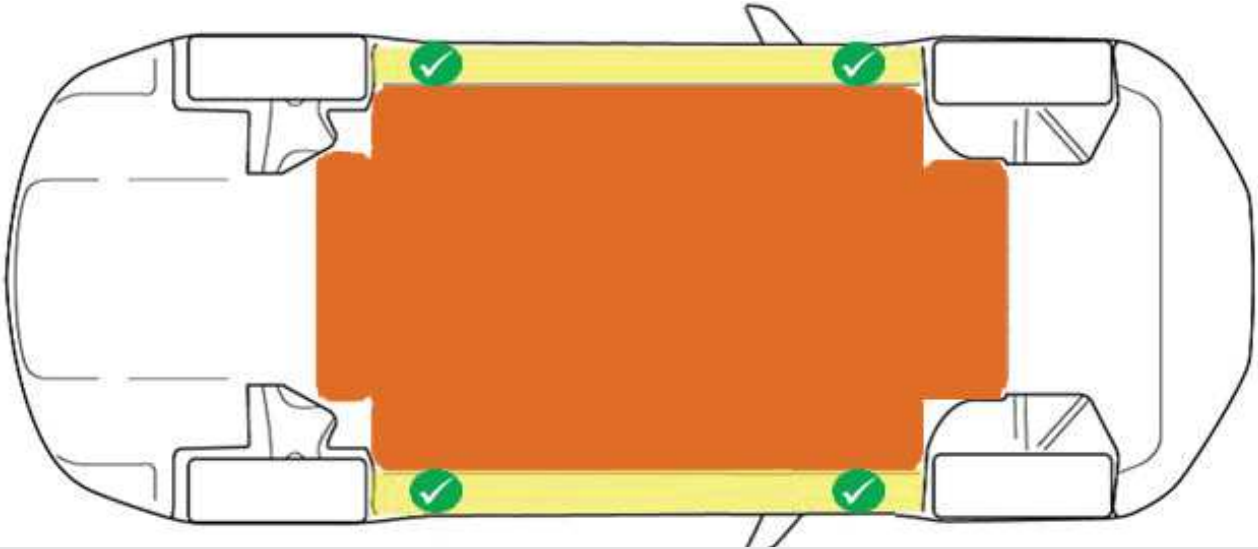
LIFT AREAS

The high voltage battery is located below the floor, under a floor pan. A large section of the undercarriage houses this battery. When lifting Model S, do not push on the high voltage battery. When lifting or jacking, use only the designated lifting areas.

✓ Appropriate lifting locations

Yellow Safe stabilization points for a side-resting Model S

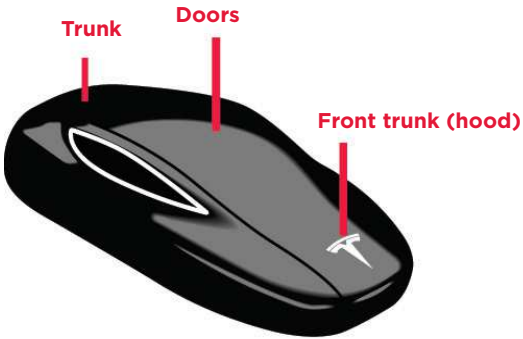
Orange High voltage battery. **DO NOT USE THIS AREA TO LIFT OR STABILIZE MODEL S!**



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.

USING THE KEY

Use the key's buttons as shown below.



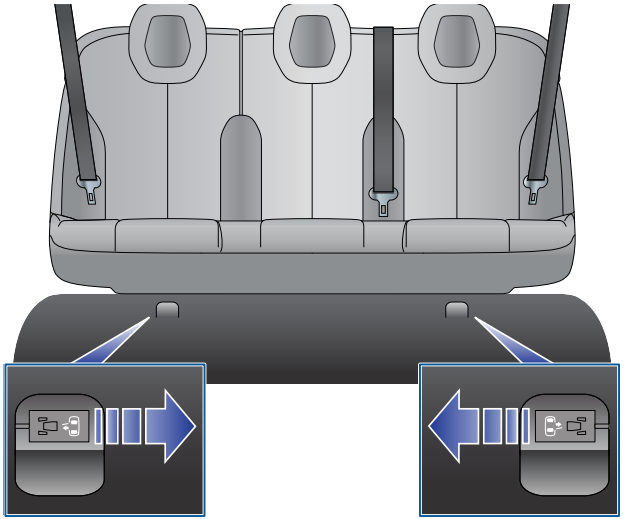
OPENING DOORS

Model S has unique door handles. Under normal conditions, when you press a handle, it extends* to allow you to open the door.

If door handles do not function, open the door manually by reaching inside the window and using the interior handle.

OPENING REAR DOORS WITH NO POWER

Open rear doors from inside by folding back the edge of the carpet below the rear seats to access the mechanical release cable. Pull the mechanical release cable toward the center.

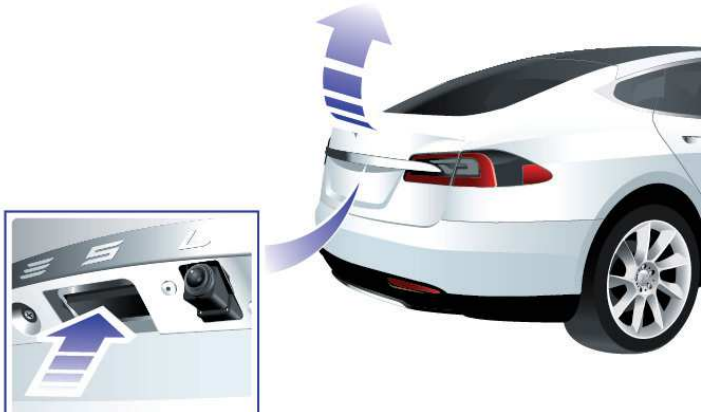


*NOTE: When an airbag inflates, Model S unlocks all doors, unlocks the trunk, and extends all door handles.

OPENING THE TRUNK

Use one of the following methods:

- Press the switch located under the handle.
- Touch Trunk on the touchscreen CONTROLS window.
- Double-click the trunk button on the key.



OPENING THE HOOD (FRONT TRUNK)

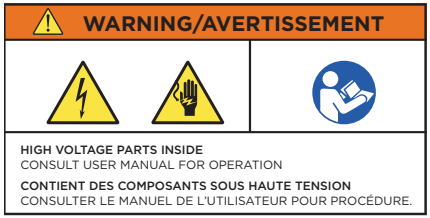
Model S does not have a traditional engine. Therefore, the area that would normally house the engine is used as additional storage space. Tesla calls this area the “Front Trunk” or “Frunk”.

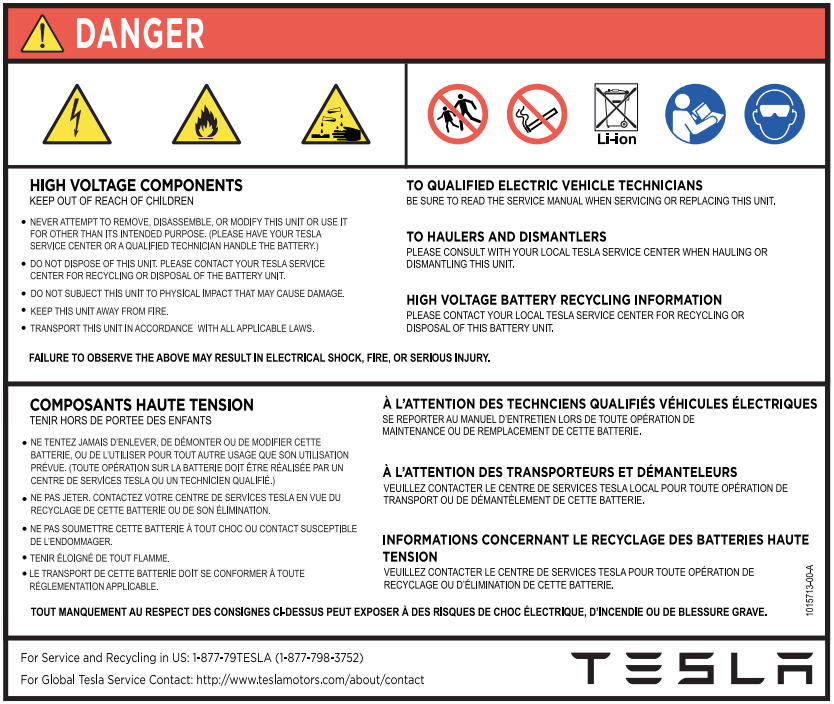
To open, use one of the following methods:

- Touch Front Trunk on the touchscreen.
- Double-click the Front Trunk (hood) button on the key.
- Pull the release handle located under the glove box, then push down on the secondary catch lever. To release the pressure against the secondary catch, you may need to push the hood down slightly.

HIGH VOLTAGE LABELS

Vehicle labels associated with high voltage components are shown below. These are examples only. Depending on the region, these labels may be translated into other languages.





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.

3500 Deer Creek Road
Palo Alto, CA 94304

2019 +

MODEL X

EMERGENCY RESPONSE GUIDE

This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle the fully electric Model X in an emergency situation. It describes how to identify Model X and provides the locations and descriptions of its high voltage components, airbags, inflation cylinders, seat belt pre-tensioners, and the high strength materials used in its body structure. This guide includes the high voltage disabling procedure and any safety considerations specific to Model X. Failure to follow recommended practices or procedures can result in serious injury or death.

The high voltage battery is the main energy source. Model X does not have a traditional gasoline or diesel engine and therefore does not have a fuel tank. Model X comes in various types. The front motor also comes in two types: induction and permanent magnet. The images in this guide might not match the vehicle you are working on.

IMPORTANT SAFETY INSTRUCTIONS

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

NOTE: Images in this document show a left-hand drive (LHD), North American vehicle. Unless otherwise noted, right-hand drive (RHD) vehicles are mirrored.

NOTE: Model X is equipped with airbags in North America only.

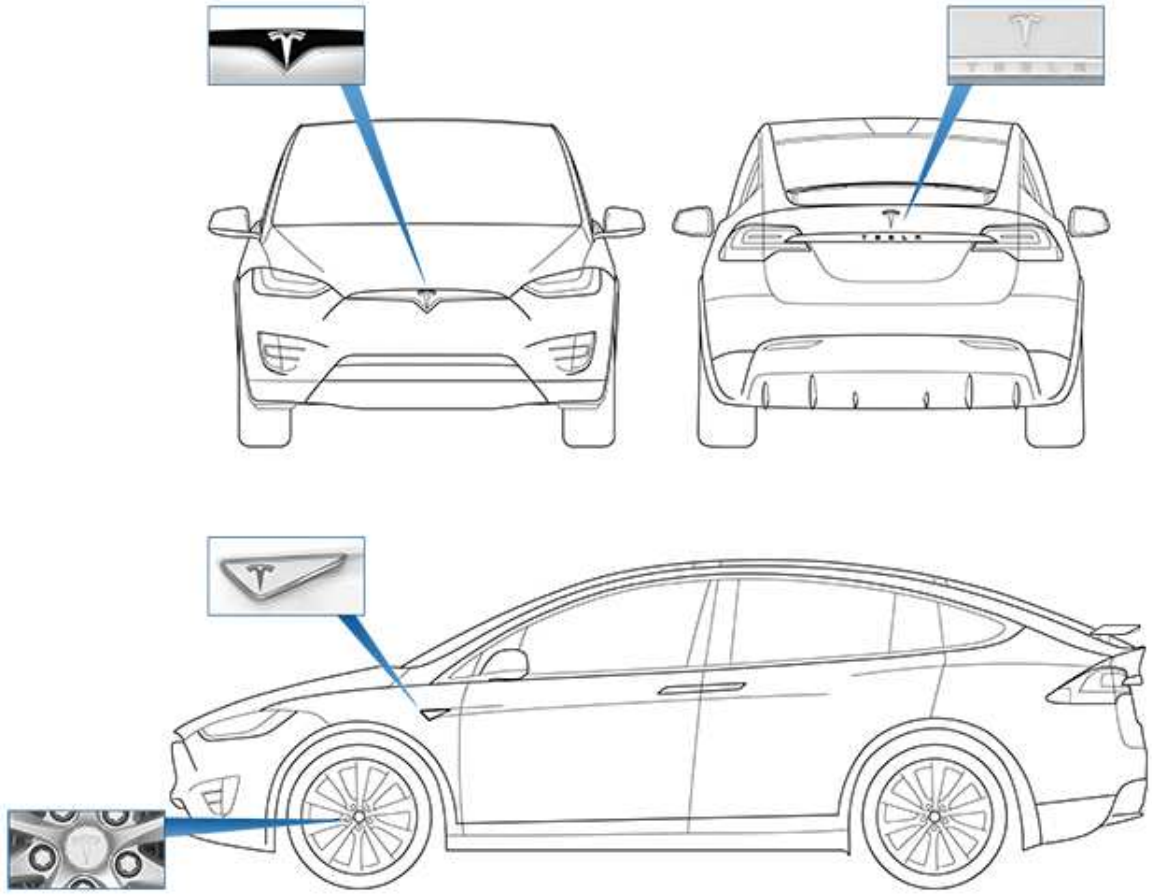
WARNINGS

- **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate personal protective equipment (PPE) when cutting Model X. Failure to follow these instructions can result in serious injury or death.
- **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:** After deactivation, the high voltage circuit requires 2 minutes to de-energize.
- **Warning:** The supplemental restraint system (SRS) control unit has a backup power supply with a discharge time of approximately ten seconds. Do not touch the SRS control unit within 10 seconds of an airbag or pre-tensioner deployment.
- **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.
- **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a self-contained breathing apparatus (SCBA).
- **Warning:** When cutting the first responder loop, double cut the loop to remove an entire section. This eliminates the risk of the cut wires accidentally reconnecting.
- **Warning:** Never cut the high tension springs attached to the falcon wing doors. These springs might cause portions of the door to rise rapidly if the weight of the doors is reduced through the removal process. Serious injury or death can result from cutting or rapidly releasing the high tension springs.
- **Warning:** NEVER TRANSPORT YOUR VEHICLE WITH TIRES IN A POSITION WHERE THEY CAN SPIN. DOING SO CAN LEAD TO SIGNIFICANT DAMAGE AND OVERHEATING. IN RARE CASES EXTREME OVERHEATING MAY CAUSE THE SURROUNDING COMPONENTS TO IGNITE.

BADGING

Model X can be identified by its badges.

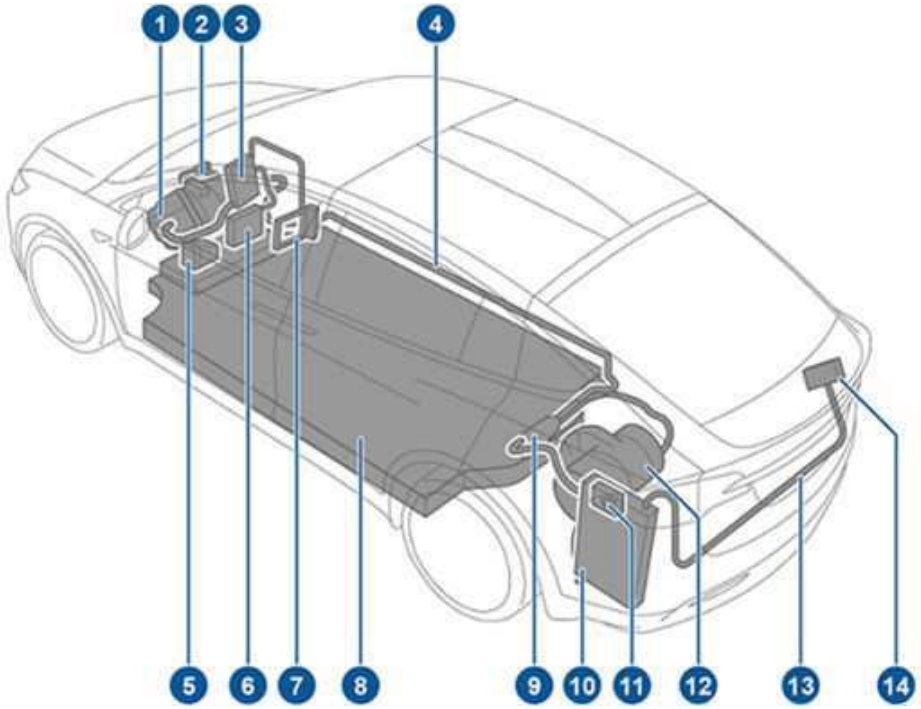
NOTE: The "D" at the end of the battery badge (or "DUAL MOTOR" badge for newer vehicles) on the RH side of the vehicle indicates that the vehicle is a Dual Motor configuration.



TOUCHSCREEN

Model X can be identified by its 17 in (43 cm) touchscreen.

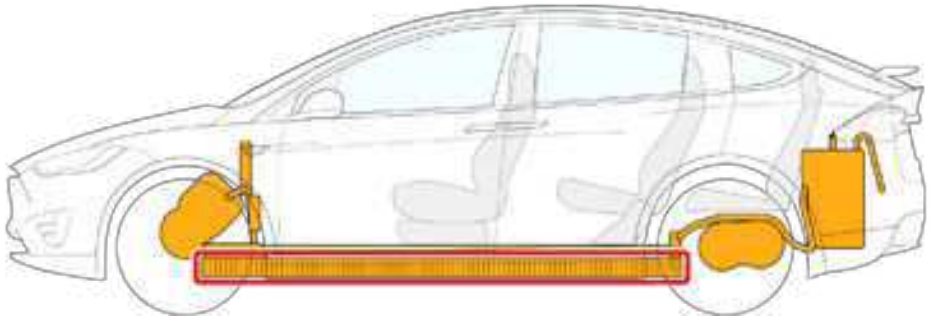
HIGH VOLTAGE COMPONENTS



1. Front drive unit
2. A/C compressor
3. Front junction box
4. High voltage cabling
5. Battery coolant heater
6. DC-DC converter
7. Cabin heater
8. High voltage battery
9. Rapid splitter
10. Charger
11. Charge port
12. Rear drive unit
13. High voltage cabling to rear HVAC assembly
14. Rear HVAC assembly

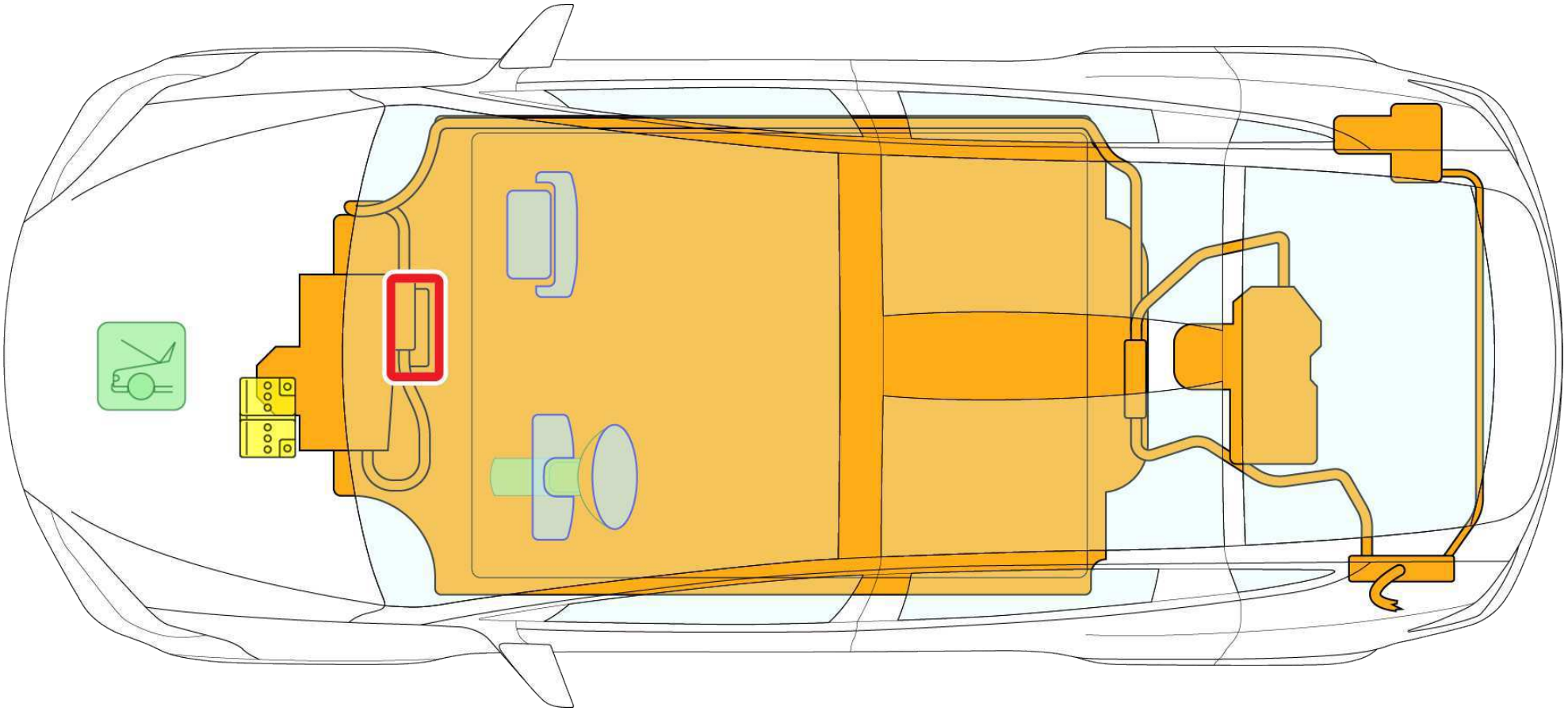
HIGH VOLTAGE BATTERY

Model X is equipped with a floor-mounted 400 volt lithium-ion high voltage battery. 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 Lifting the Vehicle on page 23 for instructions on how to properly lift the vehicle.



DC-DC CONVERTER AND FRONT JUNCTION BOX

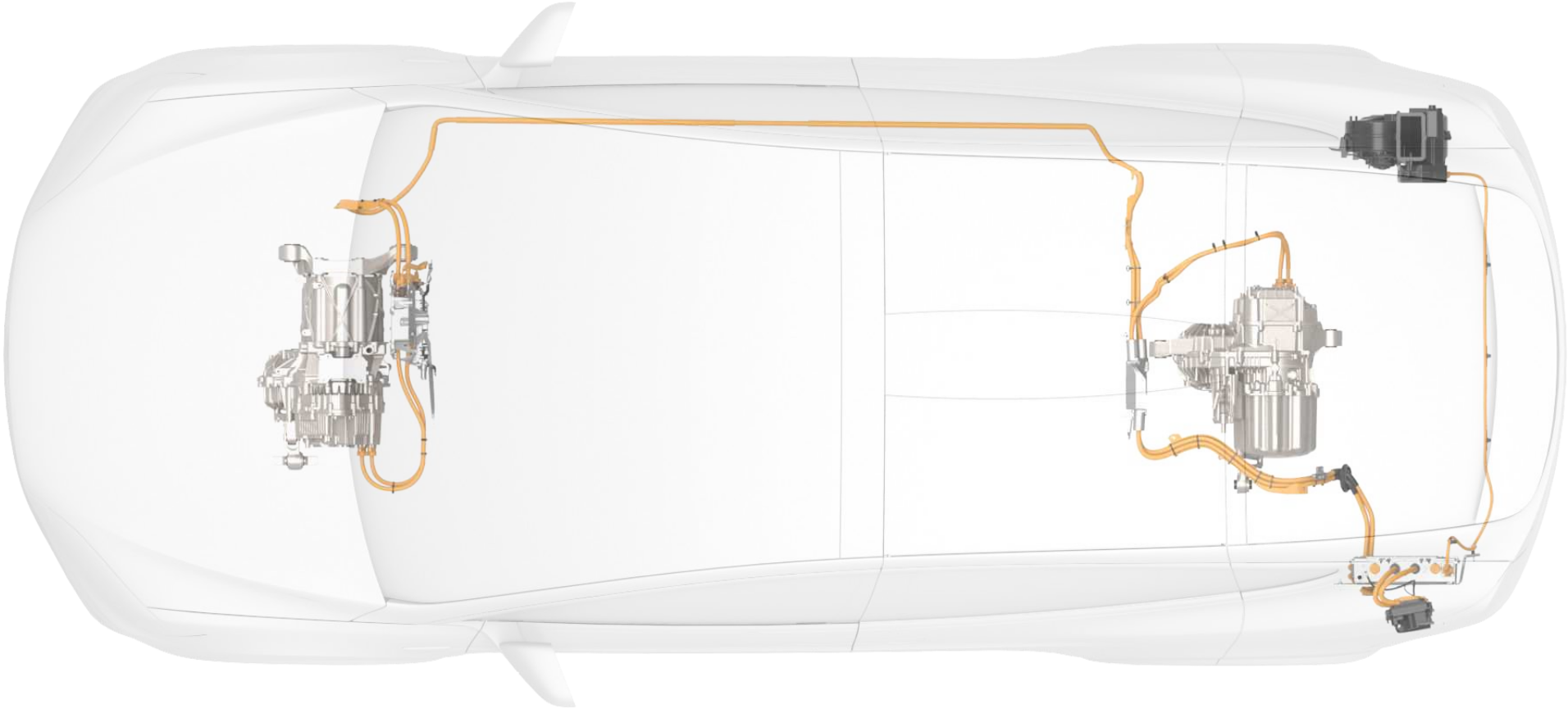
High voltage is present at the DC-DC converter and front junction box, as outlined in red. The DC-DC converter transforms the high voltage current from the high voltage battery to low voltage to charge the Model X 12 volt battery. The front junction box provides high voltage current to various components, such as the battery heater, air conditioning compressor, and cabin heater. Use caution when cutting in this area during a dash lift and dash roll procedure. Use work-around techniques, if necessary.



HIGH VOLTAGE CABLES

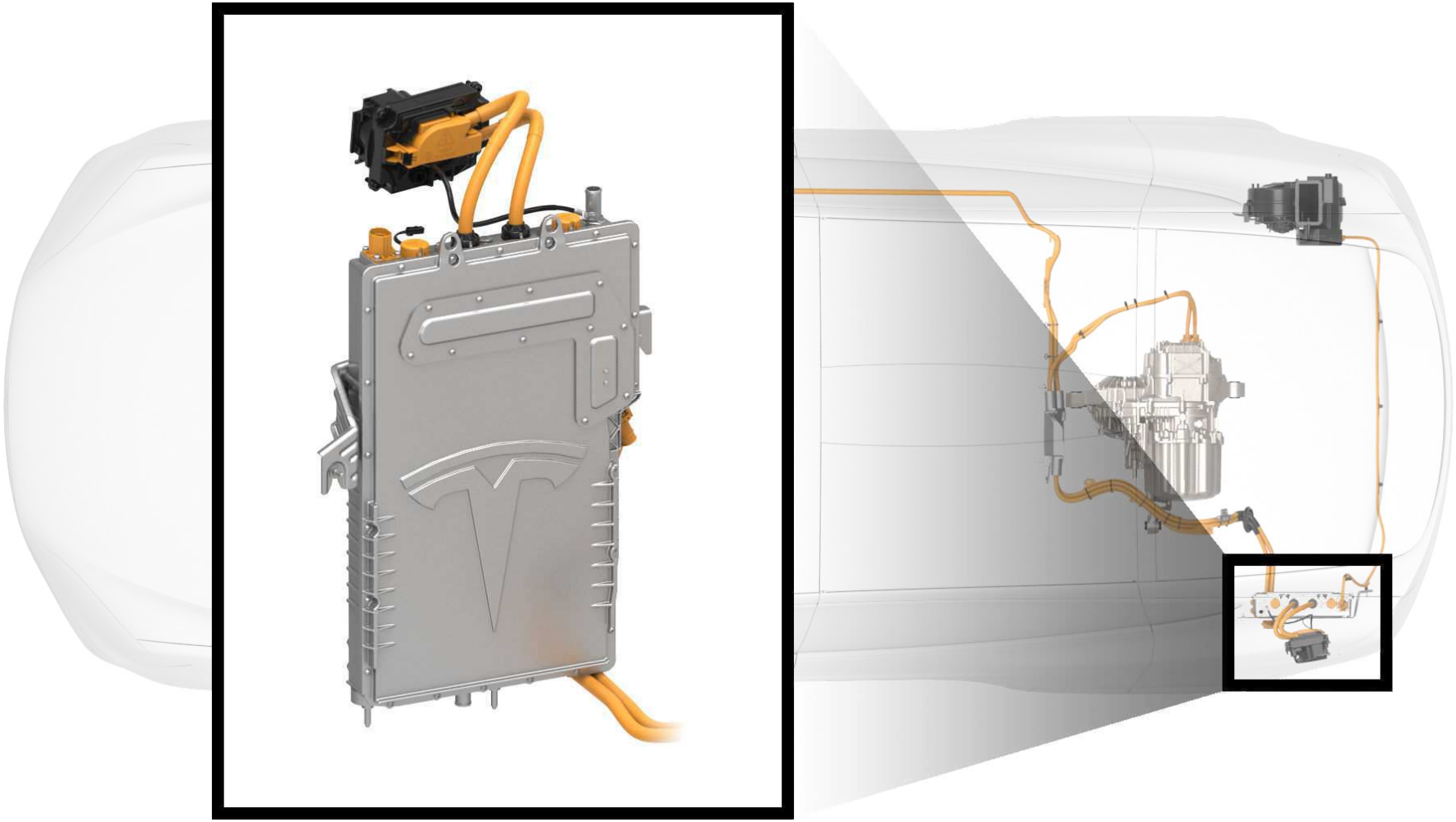
High voltage cables are shown in orange.

NOTE: The motors depicted in this image may not exactly match the vehicle you are working on.



CHARGER

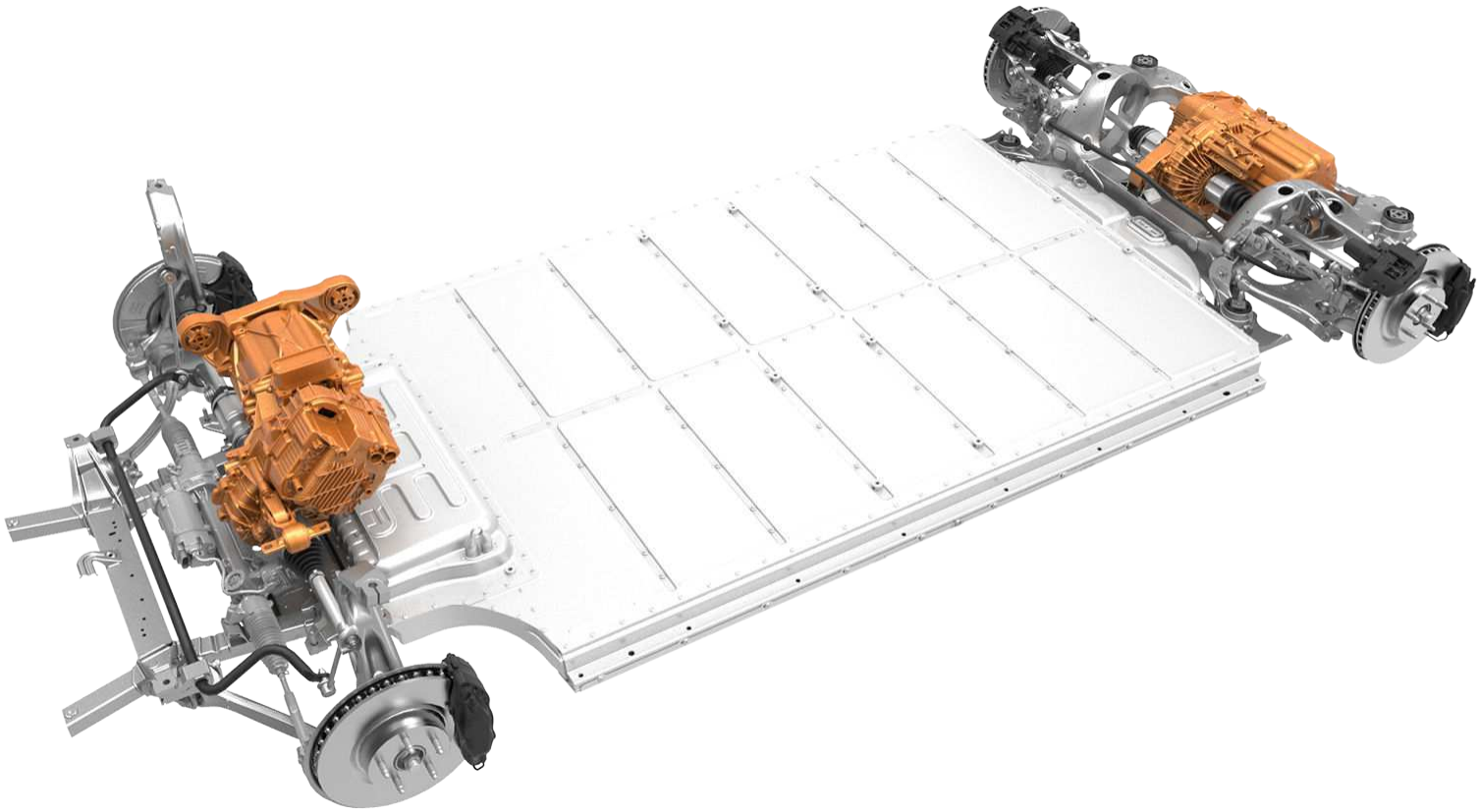
Model X has one charger located inside the left-hand side quarter panel. This charger converts alternating current (AC) from a charging station to direct current (DC) for charging the high voltage battery. It also routes high voltage to the rear HVAC, if equipped. The high voltage junction box, integrated into the charger, routes any surplus energy from regenerative braking back to the high voltage battery.



DRIVE UNITS

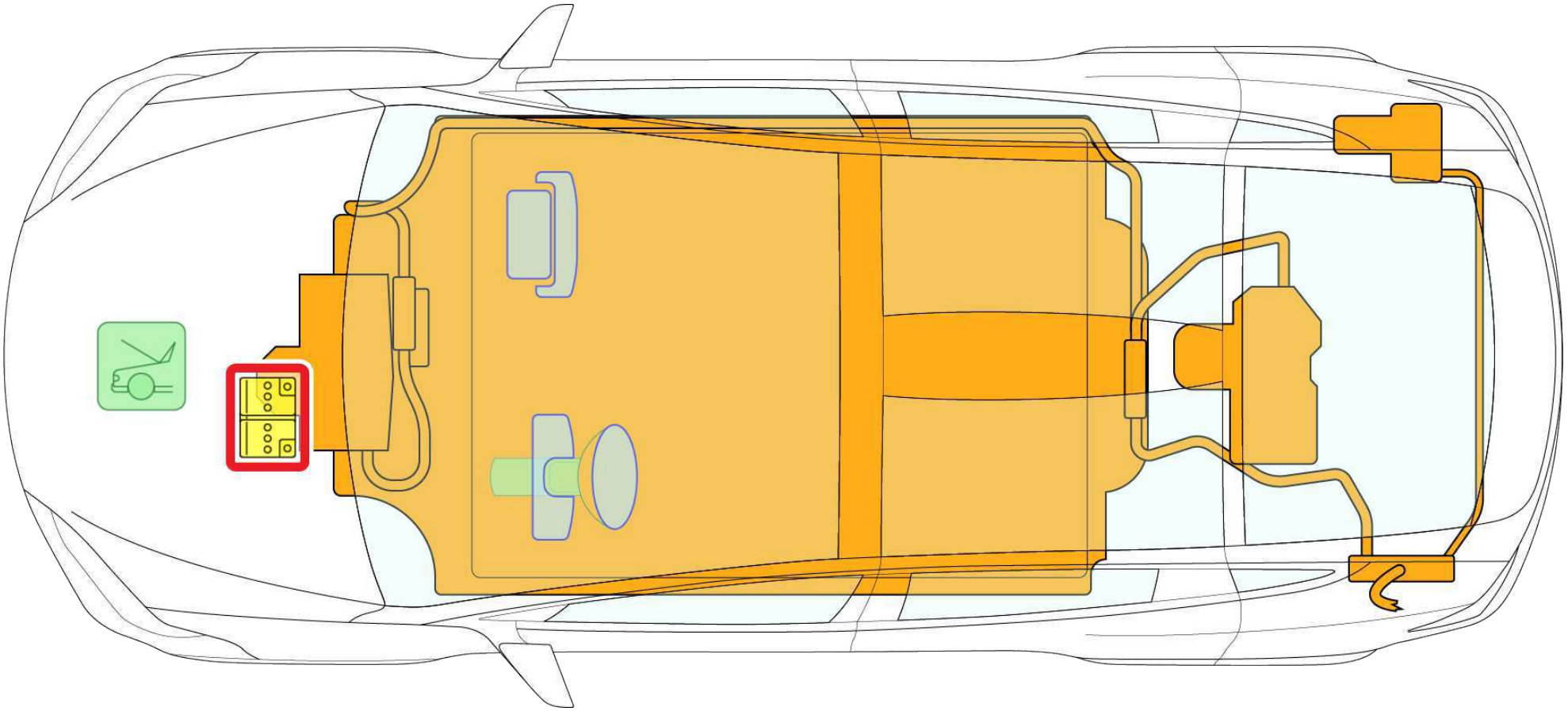
The rear drive unit is located between the rear wheels, and the front drive unit is located between the front wheels. The drive units convert the direct current (DC) from the high voltage battery into 3-phase alternating current (AC) that the drive units use to power the wheels.

NOTE: The motors depicted in this image may not exactly match the vehicle you are working on.



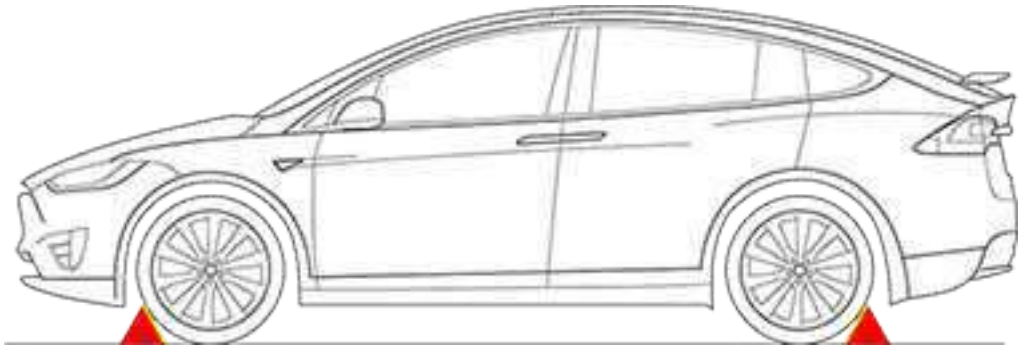
12 VOLT BATTERY

In addition to the high voltage system, Model X has a low voltage electrical system. Its 12 volt battery operates the SRS, airbags, windows, door locks, touchscreen, and interior and exterior lights. The DC-DC converter in the high voltage system charges the 12 volt battery, and the 12 volt battery supplies power to the high voltage contactors, allowing high voltage current to flow into and out of the high voltage battery. The 12 volt battery, outlined in red, is located under the hood and the plastic access panel.



CHOCK ALL FOUR WHEELS

Model X moves silently, so never assume it is powered off. Drivers can choose a setting that determines whether or not Model X will "creep" when a drive gear is selected. If this setting is off, Model X may not move unless the accelerator is pressed, even if shifted into Drive or Reverse. However, never assume that Model X will not move. Always chock the wheels.

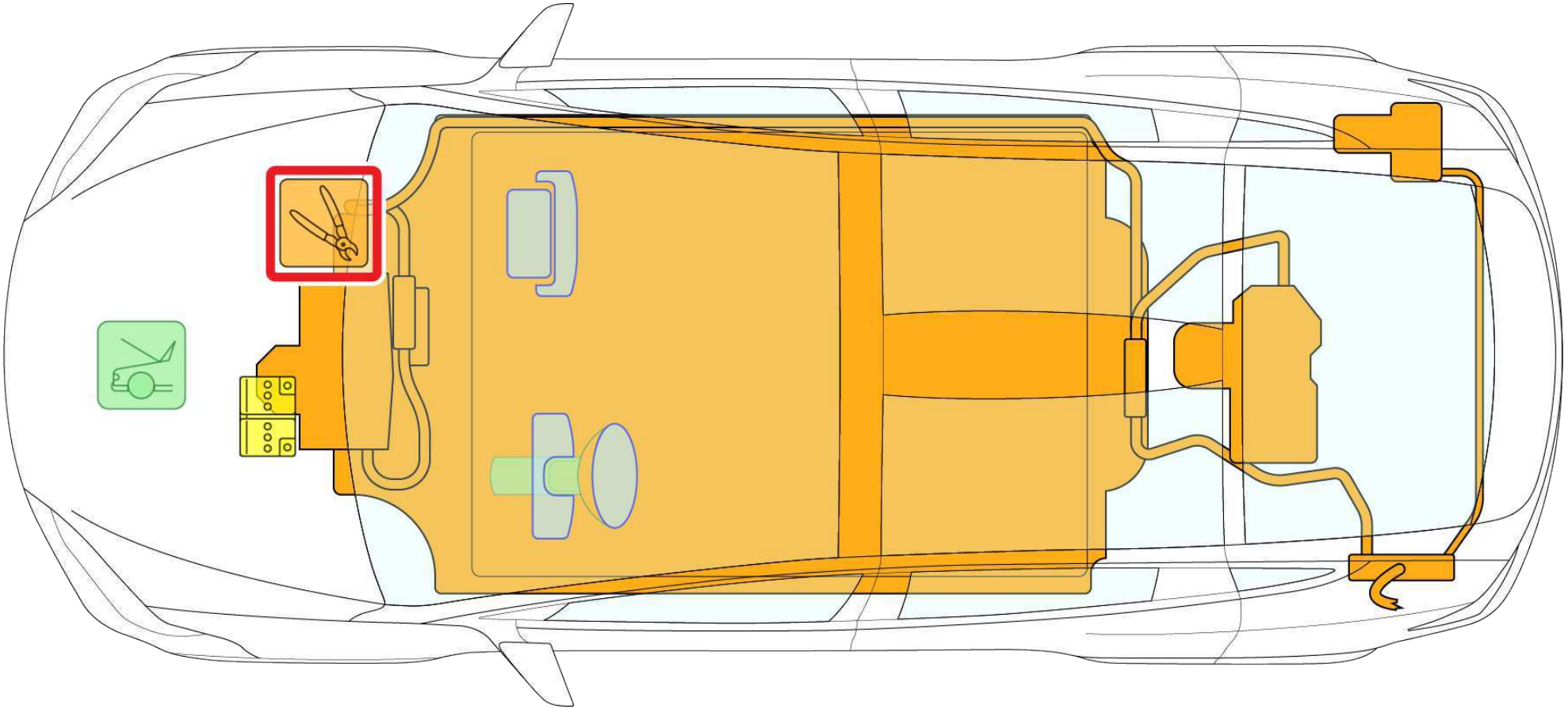


SHIFT INTO PARK

Model X moves silently, so never assume it is powered off. Pressing the accelerator pedal even slightly can cause Model X to accelerate quickly if the active gear is Drive or Reverse. To ensure that the parking brake is engaged, press the button on the end of the gear selector to shift into Park. Whenever Model X is in Park, the parking brake is automatically engaged and the instrument cluster shows the active gear as Park (P).

FRONT TRUNK FIRST RESPONDER CUT LOOP

The first responder loop is a low voltage harness. Cutting the first responder loop shuts down the high voltage system outside of the high voltage battery and disables the SRS and airbag components. Refer to Cutting the Front Trunk First Responder Loop on page 14 for instructions on how to access and cut the first responder loop.



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.

CUTTING THE FRONT TRUNK FIRST RESPONDER LOOP

When cutting the first responder loop, double cut it to remove an entire section. This prevents the wires from accidentally reconnecting.

1. Open the hood. Refer to Opening the Hood on page 30 for instructions.
2. Remove the access panel by pulling it upwards to release the clips that hold it in place.

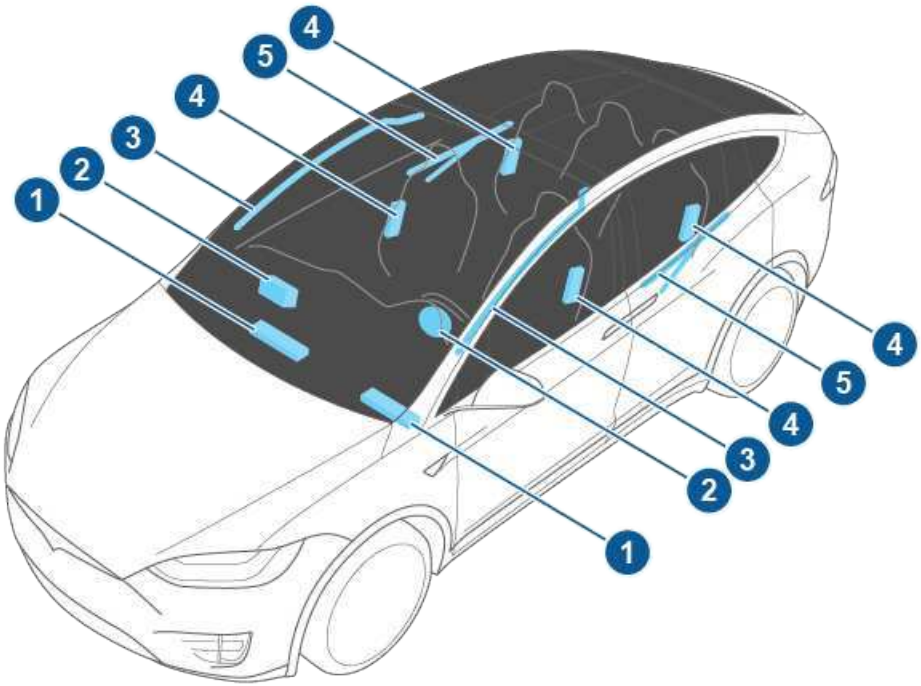
3. Double cut the first responder loop.

AIRBAGS

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

NOTE: Model X is designed to deactivate high voltage in all components and cables outside of the high voltage battery when an airbag is deployed.

NOTE: Left Hand Drive, North American vehicle shown. On Right Hand Drive vehicles, the passenger and driver airbag locations are reversed.

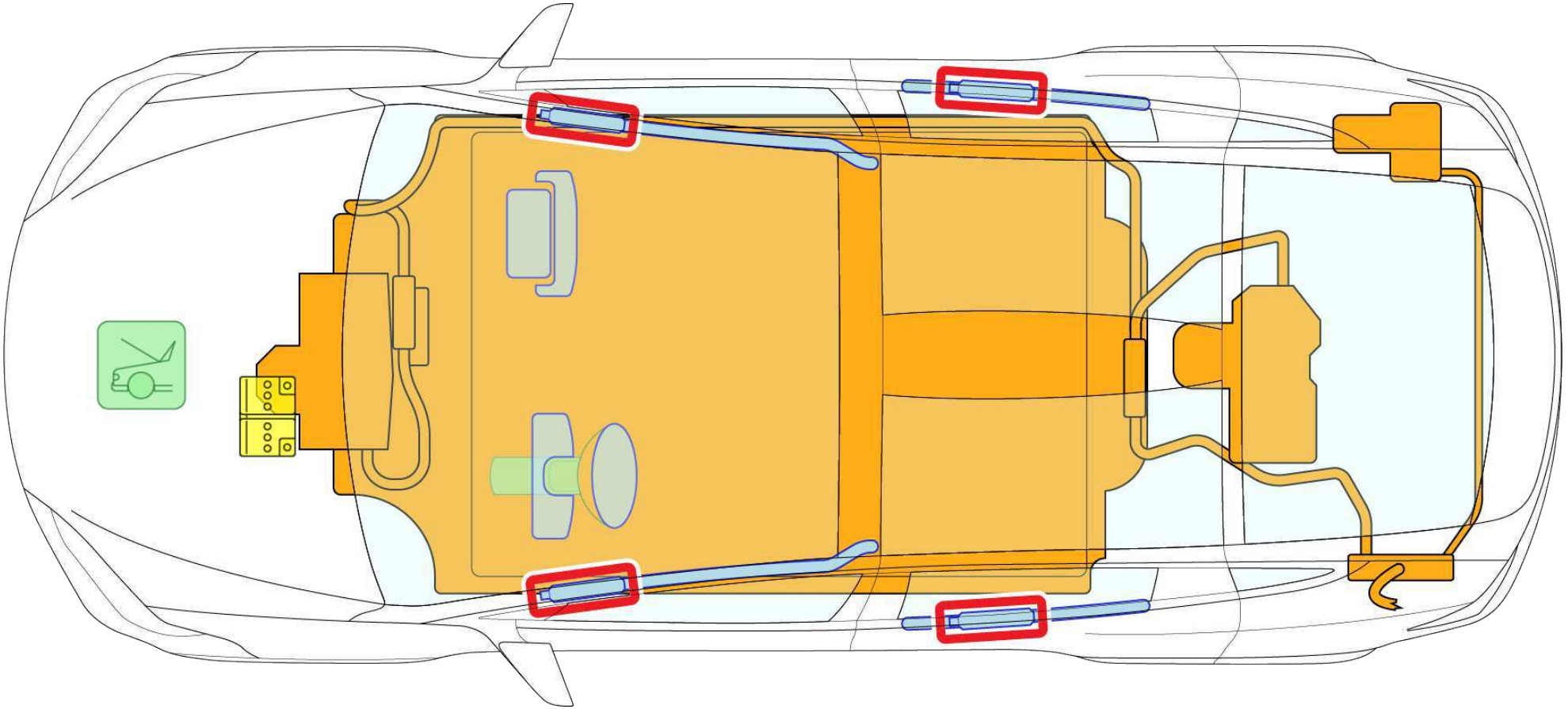


1. Knee airbags
2. Front airbags
3. Curtain airbags
4. Seat-mounted side airbags
5. Door-mounted (curtain) airbags

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

AIRBAG INFLATION CYLINDERS

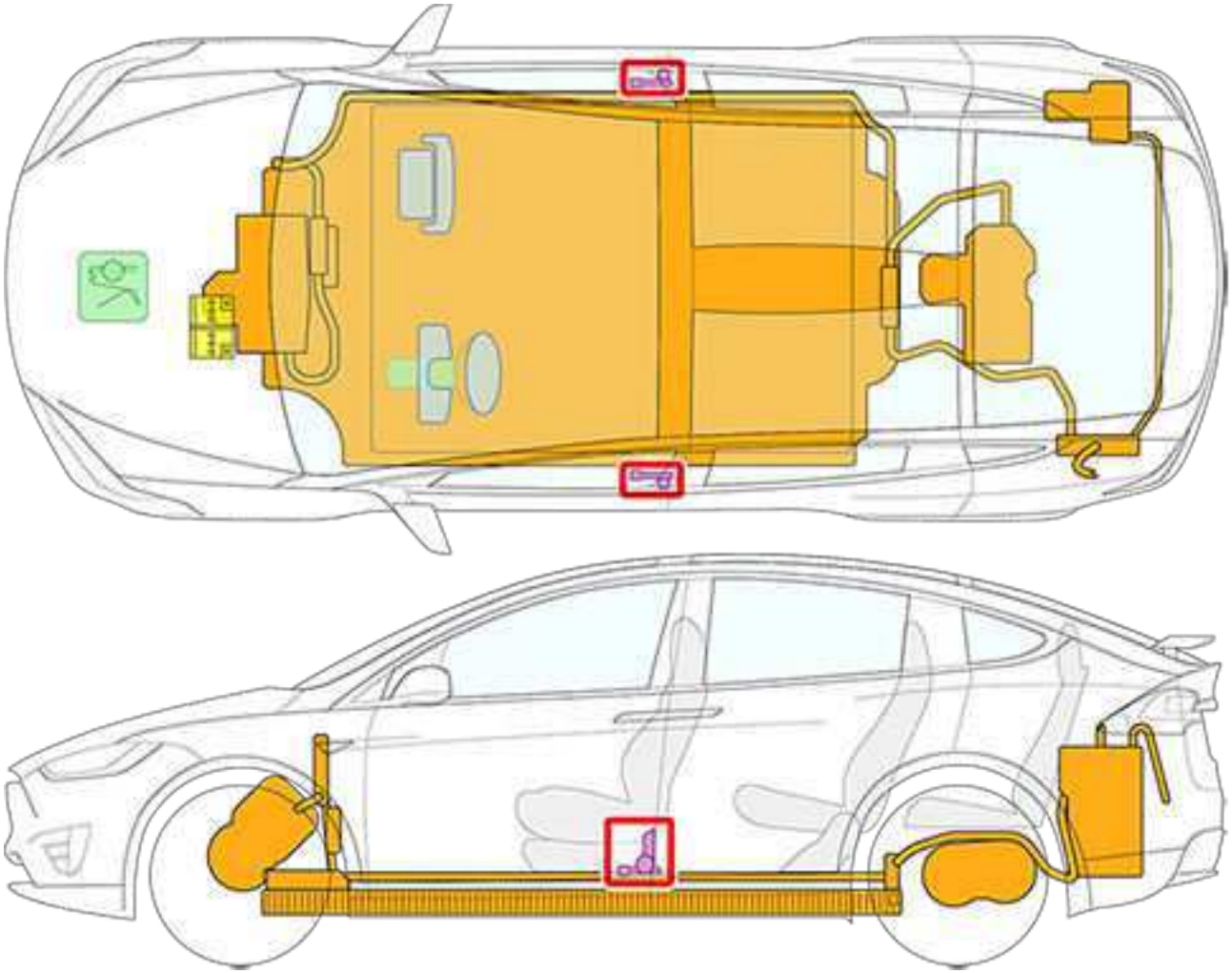
The airbag inflation cylinders, outlined in red, are located in the A-pillars and in the falcon wing doors.



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

SEAT BELT PRE-TENSIONERS

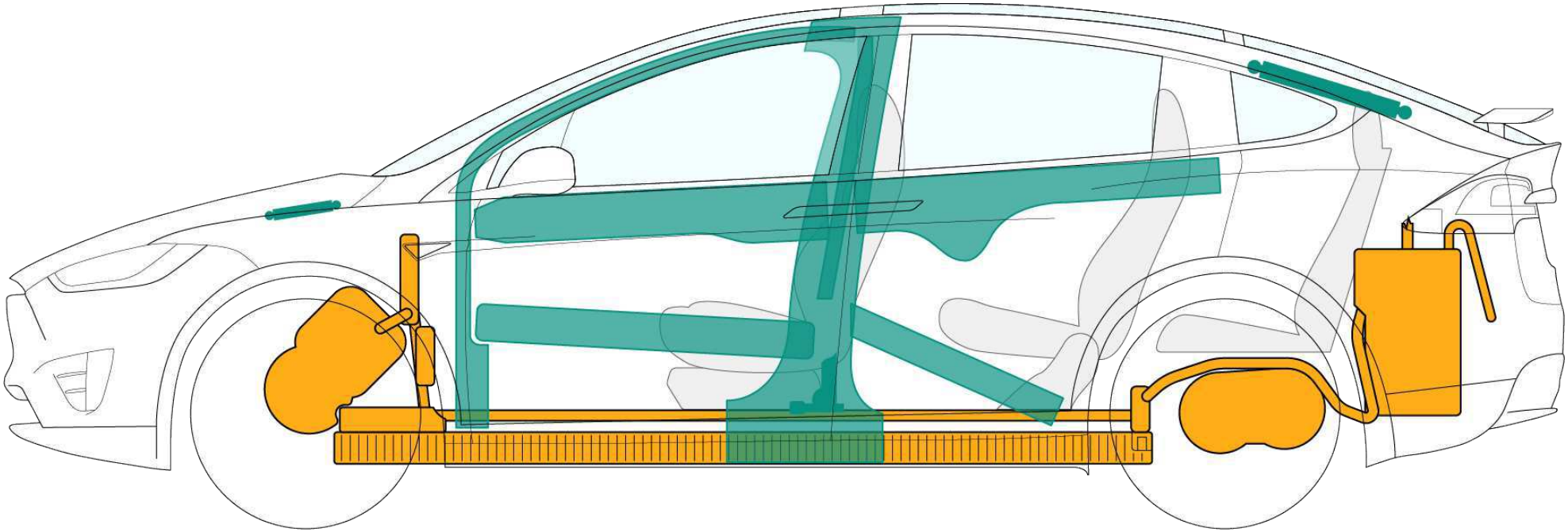
The seat belt pre-tensioners, outlined in red, are located at the bottom of the B-pillars.



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

REINFORCEMENTS AND ULTRA HIGH STRENGTH STEEL

Model X is heavily reinforced to protect occupants. The A-pillars and B-pillars are built with boron steel. The B-pillar is additionally reinforced with a dual-phase 980 steel pipe that runs from the roof rail to just below the latch striker. Suitable tools must be used to cut or crush these areas. Reinforcements are shown in teal below.

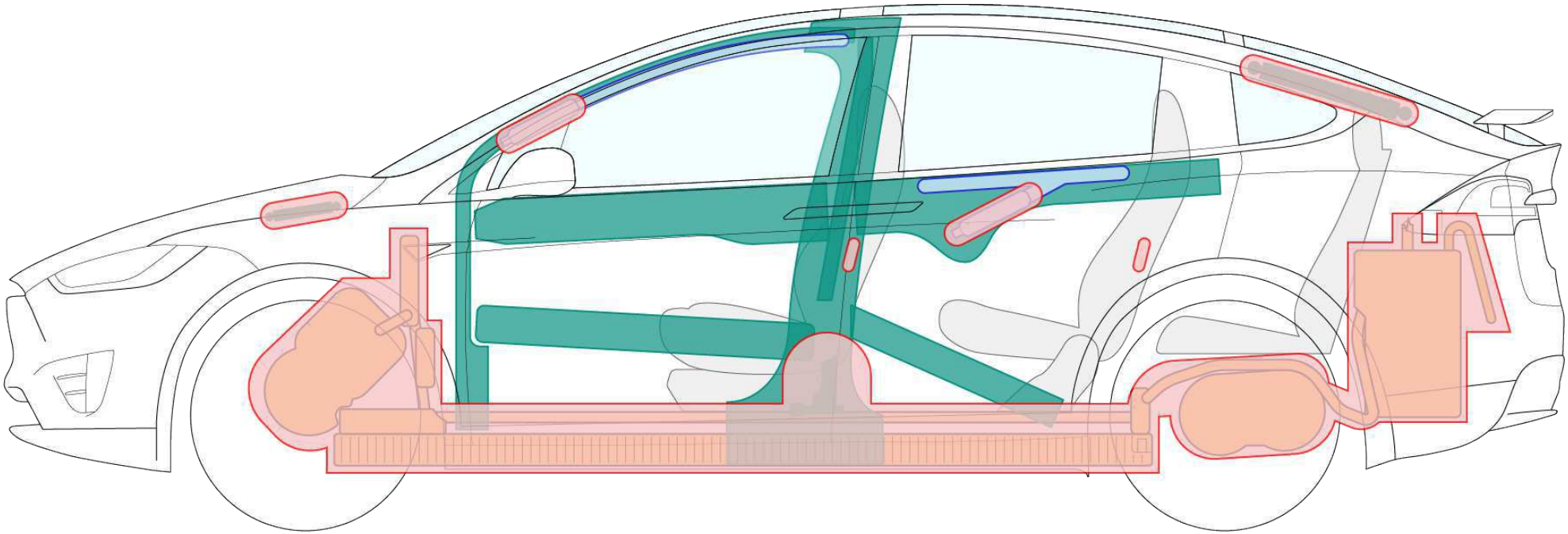


⚠ **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model X. Failure to follow these instructions can result in serious injury or death.

⚠ **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.

NO-CUT ZONES

Model X 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.

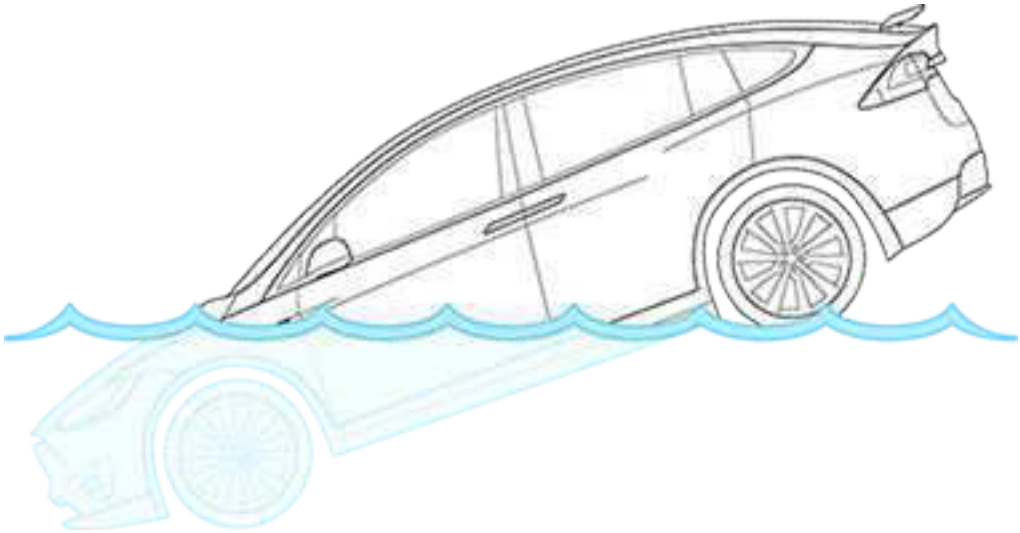


⚠ **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model X. Failure to follow these instructions can result in serious injury or death.

⚠ **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.

FULLY OR PARTIALLY SUBMERGED VEHICLES

Treat a submerged Model X like any other submerged vehicle. The body of Model X does not present a greater risk of shock because it is in water. However, handle any submerged vehicle while wearing the appropriate PPE. Remove the vehicle from the water and continue with normal high voltage disabling.



⚠ **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.

PUSHING ON THE FLOOR PAN

The high voltage battery is located below the floor pan. Never push on the floor pan inside Model X. Doing so can breach the high voltage battery, which can cause serious injury or death.

FIREFIGHTING

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11,356 liters) of water, applied directly to the battery, to fully extinguish and cool down a battery fire; always establish or request an additional water supply. If water is not immediately available, use dry chemicals, CO2, foam, or another typical fire-extinguishing agent to fight the fire until water is available.

Apply water directly to the battery. If safety permits, lift or tilt the vehicle for more direct access to the battery. Apply water inside the battery ONLY if a natural opening (such as a vent or opening from a collision) already exists. Do not open the battery for the purpose of cooling it.

Extinguish small fires that do not involve the high voltage battery using typical vehicle firefighting procedures.

During overhaul, do not make contact with any high voltage components. Always use insulated tools for overhaul.

Heat and flames can compromise airbag inflators, stored gas inflation cylinders, gas struts, and other components which can result in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

Battery fires can take up to 24 hours to extinguish. Consider allowing the battery to burn while protecting exposures.

After all fire and smoke has visibly subsided, a thermal imaging camera can be used to actively measure the temperature of the high voltage battery and monitor the trend of heating or cooling. There must not be fire, smoke, or heating present in the high voltage battery for at least one hour before the vehicle can be released to second responders (such as law enforcement, vehicle transporters, etc.). The battery must be completely cooled before releasing the vehicle to second responders or otherwise leaving the incident. Always advise second responders that there is a risk of battery re-ignition.

Second responders may choose to drain excess water out of the vehicle by tilting or repositioning it. This operation can assist in mitigating possible re-ignition.

Due to potential re-ignition, a Model X that has been involved in a submersion, fire, or a collision that has compromised the high voltage battery should be stored in an open area at least 50 ft (15 m) from any exposure.

⚠ **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a SCBA.

HIGH VOLTAGE BATTERY - FIRE DAMAGE

A burning or heated battery releases toxic vapors. These vapors may include volatile organic compounds, hydrogen gas, carbon dioxide, carbon monoxide, soot, particulates containing oxides of nickel, aluminum, lithium, copper, cobalt, and hydrogen fluoride. Responders should always protect themselves with full PPE, including a SCBA, and take appropriate measures to protect civilians downwind from the incident. Use fog streams or positive-pressure ventilation fans (PPV) to direct smoke and vapors.

The high voltage battery consists of lithium-ion cells. These cells are considered dry cells. If damaged, only a small amount of fluid can leak. Lithium-ion battery fluid is clear in color.

The high voltage battery, charge controller(s), DC-DC converter, and drive units are liquid cooled with a typical glycol-based automotive coolant. If damaged, this blue coolant can leak out of the high voltage battery.

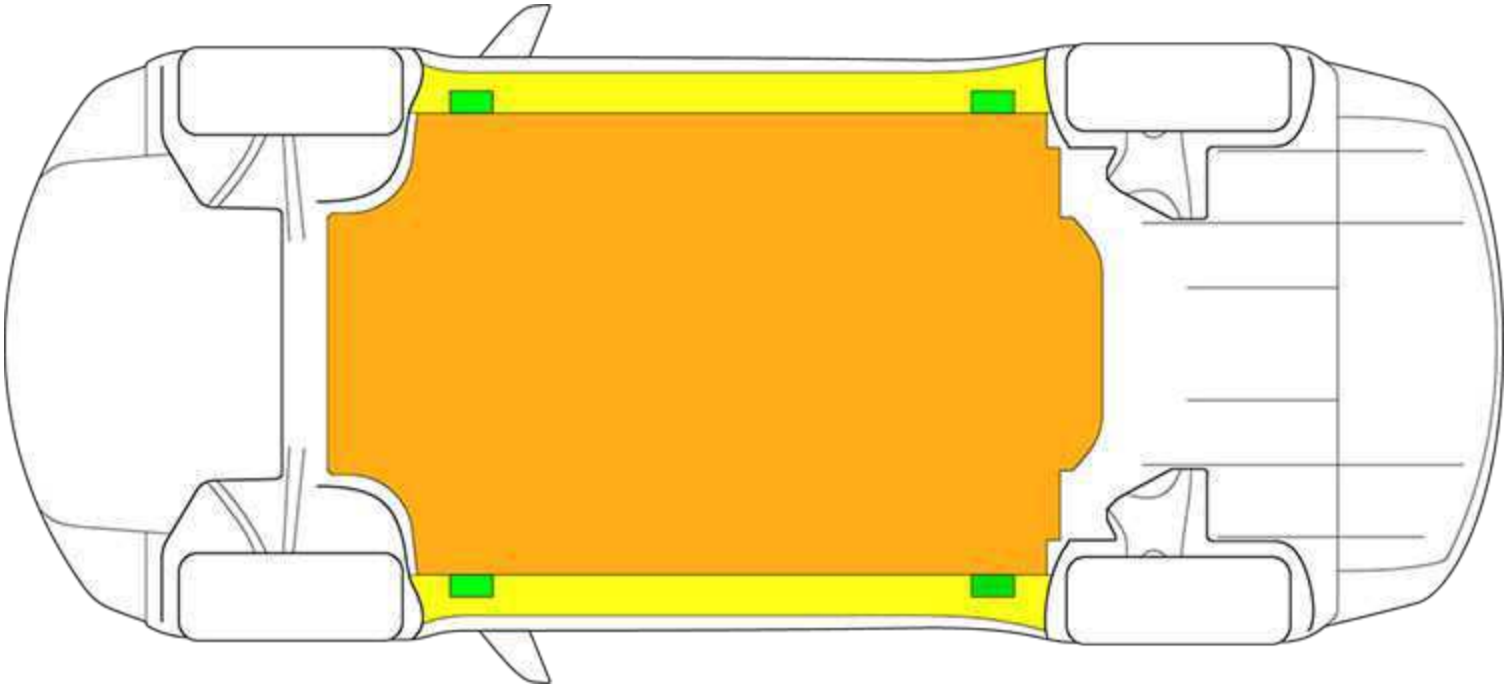
A damaged high voltage battery can create rapid heating of the battery cells. If you notice smoke coming from the high voltage battery, assume that it is heating and take appropriate action as described in Firefighting on page 21.

LIFT AREAS

The high voltage battery is located under the floor pan. A large section of the undercarriage houses the high voltage battery. When lifting or stabilizing Model X, only use the designated lift areas, as shown in green.

⚠ **Warning:** The vehicle should be lifted or manipulated only if first responders are trained and equipped at the technician level per NFPA (National Fire Protection Association) and are familiar with the vehicle's lifting points. Use caution to ensure you never come into 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 TO LIFT OR STABILIZE MODEL X.



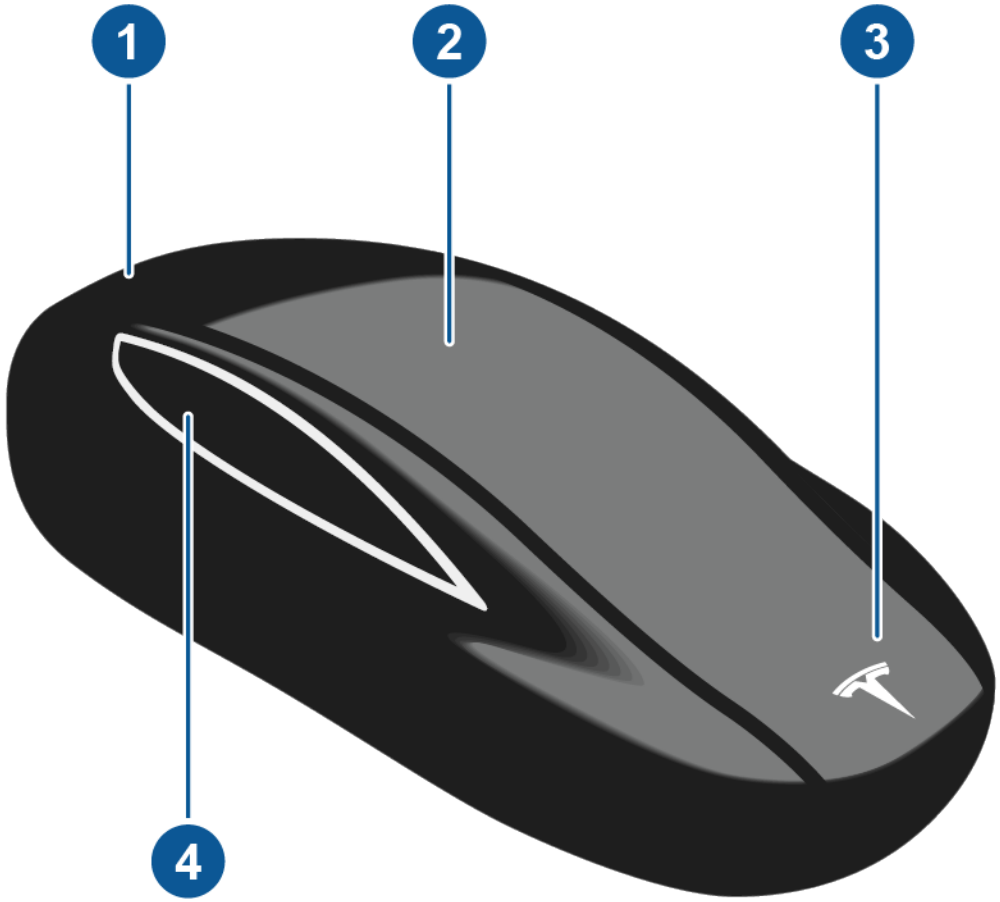
Appropriate lift areas

Safe stabilization points for a Model X resting on its side

High voltage battery

USING THE KEY

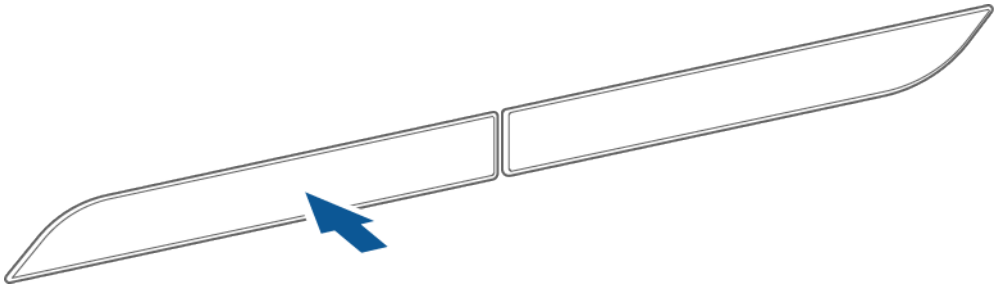
Use the key buttons as shown below.



1. Rear trunk. Double-click to open the rear trunk.
2. Unlock all. Double-click to unlock doors and both trunks.
3. Hood/front trunk. Double-click to open the hood to access the front trunk.
4. Falcon wing doors. Double-click to open/close the associated falcon wing door.

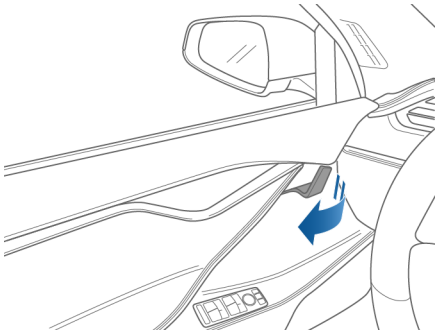
OPENING THE DOORS WITH POWER

To open the Model X doors from the outside with 12 volt power in place, press the exterior handles.



OPENING THE FRONT DOORS WITH OR WITHOUT POWER

To open the front doors from inside Model X, pull the handle towards you.



OPENING THE FALCON WING DOORS WITH POWER

To open a falcon wing door from inside Model X when the 12 volt power is on, use the button located on the inside of the B-pillar.

OPENING THE FALCON WING DOORS WITHOUT POWER

Without 12 volt power, the falcon wing doors can only be opened from the inside of the vehicle. Remove the speaker grill from the door and pull the mechanical release cable down and towards the front seat, as shown below. After the latch has released, manually lift up the doors.

REMOVING THE FALCON WING DOOR

The falcon wing doors open up and over the vehicle. In case of severe damage, you might need to cut or pry the doors from the vehicle. The locations of the hinges and latch are shown in red.

HIGH-TENSION SPRINGS

The falcon wing doors are equipped with high tension springs that assist with normal door opening. These springs might cause portions of the door to rise rapidly if the weight of the doors is reduced through the removal process. Remain clear of the upper roof section of the door while performing door removal on Model X. The locations of the high tension springs are shown in red.

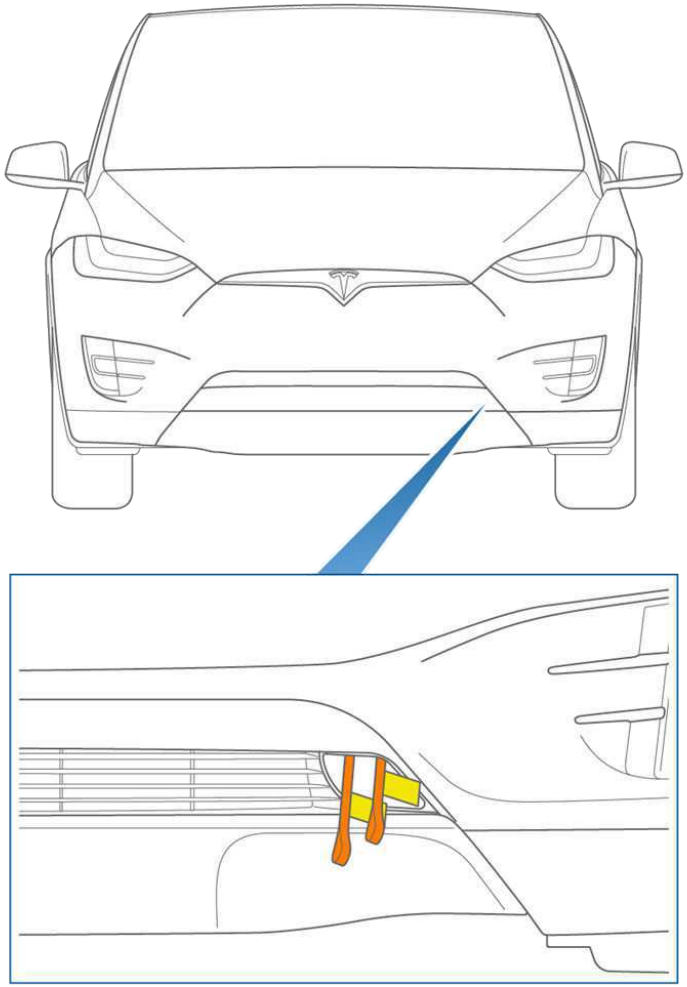
⚠ **Warning:** Never cut the high tension springs attached to the falcon wing doors. Serious injury or death can result from cutting or rapidly releasing the high tension springs.

OPENING THE HOOD

Model X does not have a traditional internal combustion engine. Therefore, the area that would normally house the engine is used as additional storage space. Tesla calls this area the “Front Trunk”.

To open the hood, use one of the following methods:

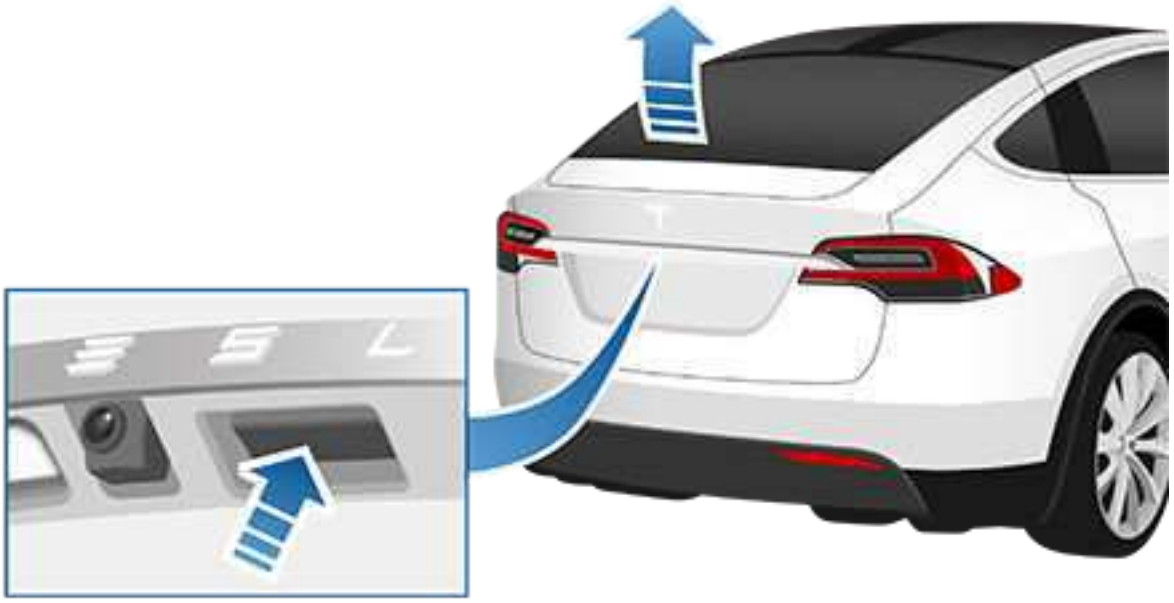
- Touch the associated OPEN button on the touchscreen (Controls > Quick Controls) for the front trunk.
- Double-click the front trunk button on the key.
- Pull the release cables located in the tow attachment on the front bumper. You need to release the tow hook cover first to expose the straps, and then pull the straps, labeled A and B, in alphabetical order to open the primary and secondary latches.



OPENING THE TRUNK

Use one of the following methods to open the trunk:

- Touch the associated OPEN button on the touchscreen (Controls > Quick Controls) for the trunk.
- Double-click the trunk button on the key.
- Press the switch located under the exterior handle on the trunk.



PUSHING THE VEHICLE

⚠ **Warning:** The following instructions are intended to be used when only moving Model X a very short distance to improve traffic safety. Refer to the Owner's Manual on the touchscreen or the Roadside Assistance Guide in the glovebox for instructions on how to transport Model X. Damage caused by transporting the vehicle is not covered by the warranty.

⚠ **Warning:** Do not push Model X with its wheels in a position where they can spin, such as in contact with the ground. If this must be done, use a wheel lift and dollies to ensure that all four wheels are off the ground. This may be done for a maximum of 35 miles (55 km), and must not exceed the manufacturer speed rating of the dollies. Tesla recommends the vehicle face forward so the front wheels are lifted and the rear wheels are on dollies. Transporting Model X using any method not specified by Tesla can result in significant damage to the vehicle and can cause serious injury.

In situations where there is minimal risk of fire or high voltage exposure (for example, the vehicle does not accelerate after coming to a stop at an intersection) and 12V power is present, Model X can be quickly pushed in order to clear the roadway. If a driver is present, simply shift Model X into Neutral and then push the vehicle. If a driver is not present, Model X may automatically shift into Park when it detects the driver leaving the vehicle (even if it has previously been shifted into Neutral).

To keep Model X in Neutral (which disengages the parking brake and allows the vehicle to be pushed) without a driver present, use the touchscreen to activate Transport Mode:

1. Ensure Model X is in Park.
2. Press and hold the brake pedal, then on the touchscreen touch Controls > Service > Towing.
3. Hold the Transport Mode button until it turns blue. Model X is now free-rolling and can be slowly rolled (no faster than walking speed) or winched.

NOTE: Model X must detect a key nearby and 12V power is required for Transport Mode to activate.

When Transport Mode is active, Model X displays this indicator light on the instrument panel, along with a message indicating that Model X is free-rolling.

To cancel Transport Mode, shift Model X into Park.

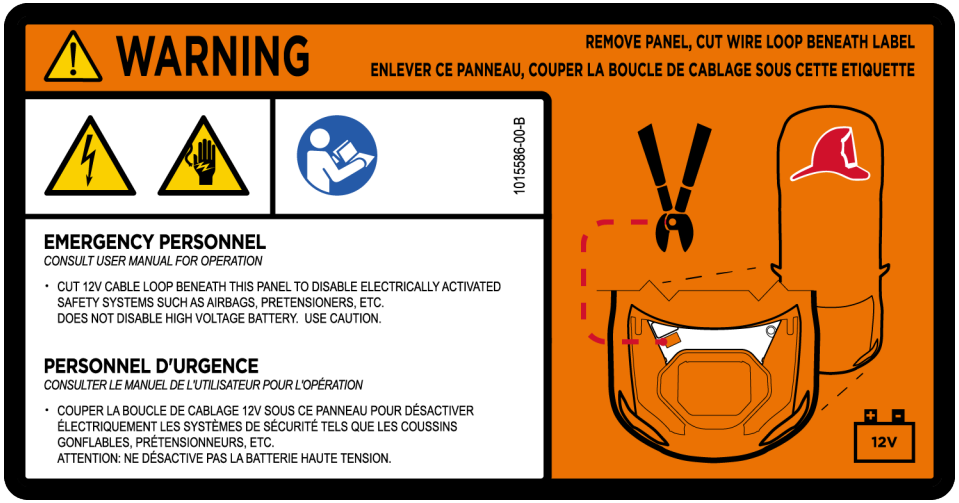
NOTE: If the electrical system is not working, and you therefore cannot use the touchscreen to activate Transport Mode, use self-loading dollies or tire skates. Before doing so, always check the manufacturer's specification and recommended loading capacity. Alternatively, attempt to jump start the 12V battery. For instructions, call Tesla Roadside Assistance

EXAMPLE OF A HIGH VOLTAGE LABEL

An example of a label located on a high voltage component is shown below. Note that, depending on the market region and vehicle build date, labels might change or be translated into other languages.

NOTE: High voltage labels may not be present newer vehicles. Do not rely on the labels to warn you of high voltage components. Always assume all high voltage components are energized.

Warning: Not every high voltage component is labeled. Always wear appropriate PPE when cutting Model X. Failure to follow these instructions can result in serious injury or death.



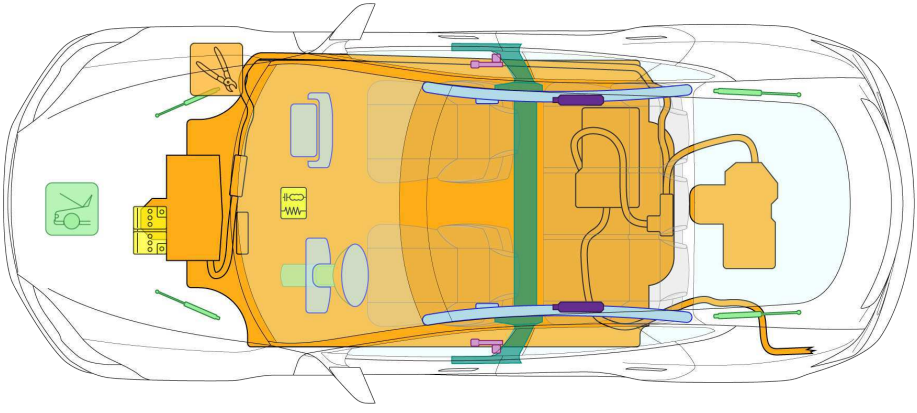
CONTACT US

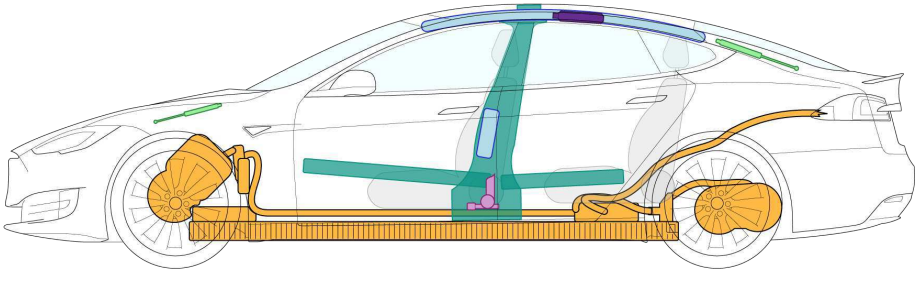
First Responders and Second Responders with emergencies should call Tesla Roadside Assistance. Refer to https://www.tesla.com/roadside-assistance for the applicable number.

First Responders and training officers who have questions, please contact firstrespondersafety@tesla.com.

3500 Deer Creek Road
Palo Alto, CA 94304

Model S Emergency Response Sheet





12V battery	Emergency disconnect	SRS control unit
Gas cylinder	Airbags (knee airbags N.A. only)	Seat belt pre-tensioners
Gas inflator	High voltage components	Reinforcements

Firefighting

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11356 liters) of water (applied directly to the battery); establish sufficient water supply.

Extinguish small fires not involving the battery using typical vehicle firefighting procedures.

Always use insulated tools for overhaul.

Heat and flames can compromise some components, resulting in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

There must not be fire, smoke, or heating present in the battery for at least one hour (consider using a thermal imaging camera to measure the temperature) and the battery must be completely cooled before the vehicle can be released to second responders. Always advise second responders that there is a risk of battery re-ignition.

Warnings and Notes

- **Warning:** Always assume Model S is powered and high voltage (HV) components are energized.
- **Warning:** Always wear full PPE, including a self-contained breathing apparatus.
- **Warning:** Never touch, cut, or open any orange HV cable or component.
- **Warning:** Double cut the first responder loop to remove an entire section. This prevents the wires from reconnecting.
- **Warning:** Do not use the HV battery to lift or stabilize Model S.
- **Warning:** After deactivation, the HV circuit requires 2 minutes to deplete.
- **Warning:** The SRS control unit has a backup power supply with a discharge time of approximately 10 seconds.
- **Warning:** NEVER TRANSPORT THE VEHICLE WITH THE WHEELS ON THE GROUND. THIS CAN LEAD TO OVERHEATING, WHICH MAY CAUSE SOME COMPONENTS TO IGNITE.

Note: Treat a submerged Model S like any other submerged car.

Note: Refer to the relevant Emergency Response Guide for additional information.

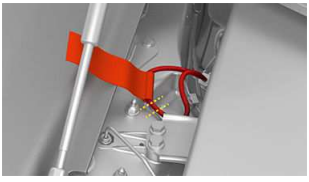
Stabilize the Vehicle

1. Chock the wheels.
2. Set the parking brake.

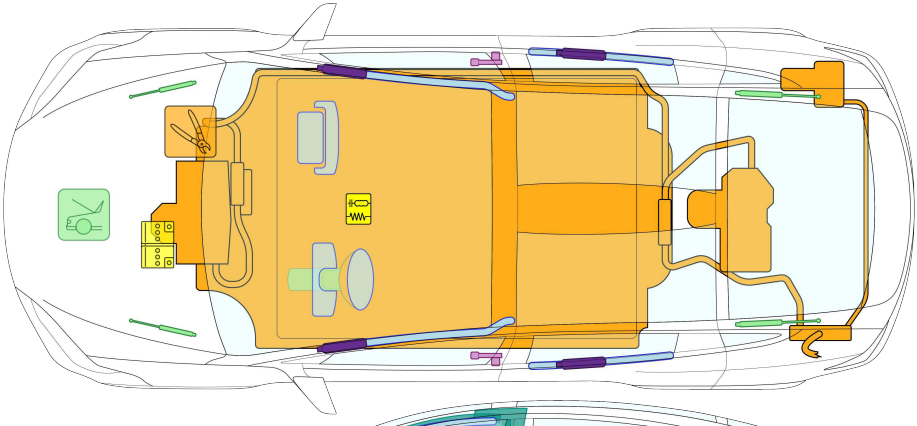
Disable the HV System

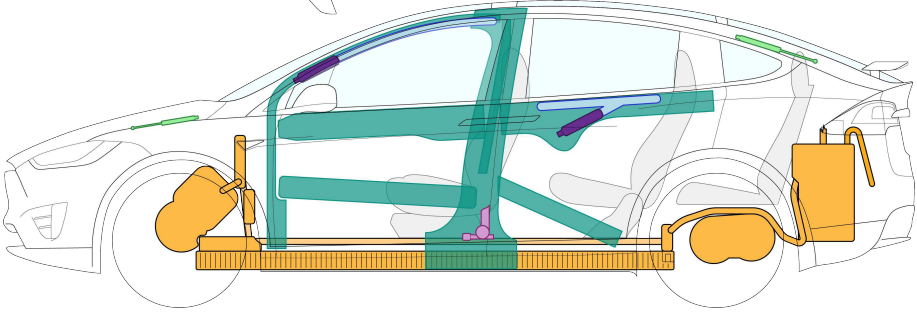
1. Open the hood:
   - Touch CONTROLS > FRONT TRUNK on the touchscreen.
   - Double-click the front key button.
   - Pull the release cables located in the front wheel arch liners. You need to release the covers first to expose the straps, and then pull the straps, labeled A (RH wheel arch liner) and B (LH wheel arch liner), in alphabetical order to open the primary and secondary latches.
2. Remove the access panel by pulling it up to release the clips securing it.

3. Double cut the first responder loop to remove an entire section.



Model X Emergency Response Sheet





12V battery	Emergency disconnect	SRS control unit
Gas cylinder	Airbags (knee airbags N.A. only)	Seat belt pre-tensioners
Gas inflator	High voltage components	Reinforcements

Firefighting

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11356 liters) of water (applied directly to the battery); establish sufficient water supply.

Extinguish small fires not involving the battery using typical vehicle firefighting procedures.

Always use insulated tools for overhaul.

Heat and flames can compromise some components, resulting in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

There must not be fire, smoke, or heating present in the battery for at least one hour (consider using a thermal imaging camera to measure the temperature) and the battery must be completely cooled before the vehicle can be released to second responders. Always advise second responders that there is a risk of battery re-ignition.

Warnings and Notes

- **Warning:** Always assume Model X is powered and high voltage (HV) components are energized.
- **Warning:** Always wear full PPE, including a self-contained breathing apparatus.
- **Warning:** Never touch, cut, or open any orange HV cable or component.
- **Warning:** Double cut the first responder loop to remove an entire section. This prevents the wires from reconnecting.
- **Warning:** Do not use the HV battery to lift or stabilize Model X.
- **Warning:** After deactivation, the HV circuit requires 2 minutes to deplete.
- **Warning:** The SRS control unit has a backup power supply with a discharge time of approximately 10 seconds.
- **Warning:** NEVER TRANSPORT THE VEHICLE WITH THE WHEELS ON THE GROUND. THIS CAN LEAD TO OVERHEATING, WHICH MAY CAUSE SOME COMPONENTS TO IGNITE.

Note: Treat a submerged Model X like any other submerged car.

Note: Refer to the relevant Emergency Response Guide for additional information.

Stabilize the Vehicle

1. Chock the wheels.
2. Set the parking brake.

Disable the HV System

1. Open the hood:
   - Touch CONTROLS > DOORS > FRONT TRUNK on the touchscreen.
   - Double-click the front key button.
   - Pull the release cables located in the tow attachment on the front bumper. You need to release the tow hook cover first to expose the straps, and then pull the straps, labeled A and B, in alphabetical order to open the primary and secondary latches.
2. Remove the access panel by pulling it up to release the clips securing it.

3. Double cut the first responder loop to remove an entire section.

2019+

MODEL S

EMERGENCY RESPONSE GUIDE

This guide is intended only for use by trained and certified rescuers and first responders. It assumes that readers have a comprehensive understanding of how safety systems work and have completed the appropriate training and certification required to safely handle rescue situations. Therefore, this guide provides only the specific information required to understand and safely handle the fully electric Model S in an emergency situation. It describes how to identify Model S and provides the locations and descriptions of its high voltage components, airbags, inflation cylinders, seat belt pre-tensioners, and the high strength materials used in its body structure. This guide includes the high voltage disabling procedure and any safety considerations specific to Model S. Failure to follow recommended practices or procedures can result in serious injury or death.

The high voltage battery is the main energy source. Model S does not have a traditional gasoline or diesel engine and therefore does not have a fuel tank. The rear motor in dual motor Model S comes in two types: regular and high performance. The front motor also comes in two types: induction and permanent magnet. The images in this guide might not match the vehicle you are working on.

IMPORTANT SAFETY INSTRUCTIONS

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

NOTE: Images in this document show a left-hand drive (LHD), North American vehicle. Unless otherwise noted, right-hand drive (RHD) vehicles are mirrored.

NOTE: Model S is equipped with airbags in North America only.

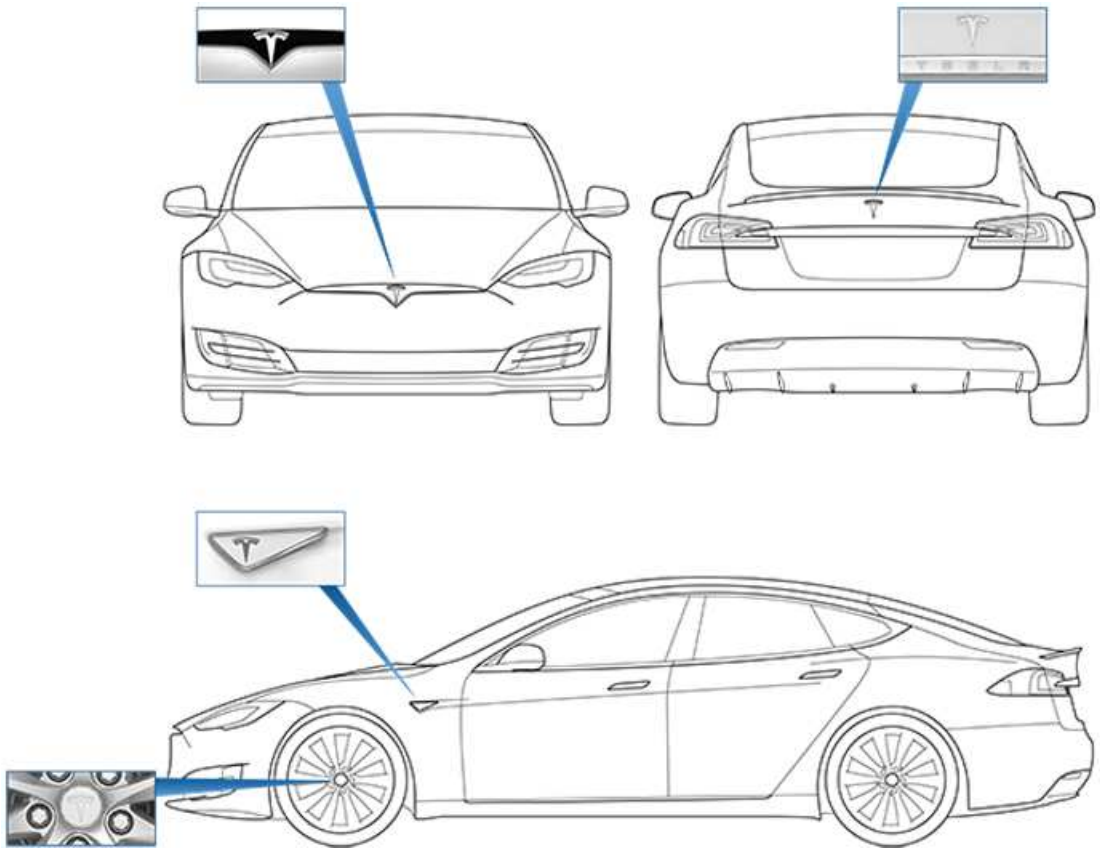
WARNINGS

- **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate personal protective equipment (PPE) when cutting Model S. Failure to follow these instructions can result in serious injury or death.
- **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:** After deactivation, the high voltage circuit requires 2 minutes to de-energize.
- **Warning:** The supplemental restraint system (SRS) control unit has a backup power supply with a discharge time of approximately ten seconds. Do not touch the SRS control unit within 10 seconds of an airbag or pre-tensioner deployment.
- **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.
- **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a self-contained breathing apparatus (SCBA).
- **Warning:** When cutting the first responder loop, double cut the loop to remove an entire section. This eliminates the risk of the cut wires accidentally reconnecting.
- **Warning:** NEVER TRANSPORT YOUR VEHICLE WITH TIRES IN A POSITION WHERE THEY CAN SPIN. DOING SO CAN LEAD TO SIGNIFICANT DAMAGE AND OVERHEATING. IN RARE CASES EXTREME OVERHEATING MAY CAUSE THE SURROUNDING COMPONENTS TO IGNITE.

BADGING

Model S can be identified by its badges.

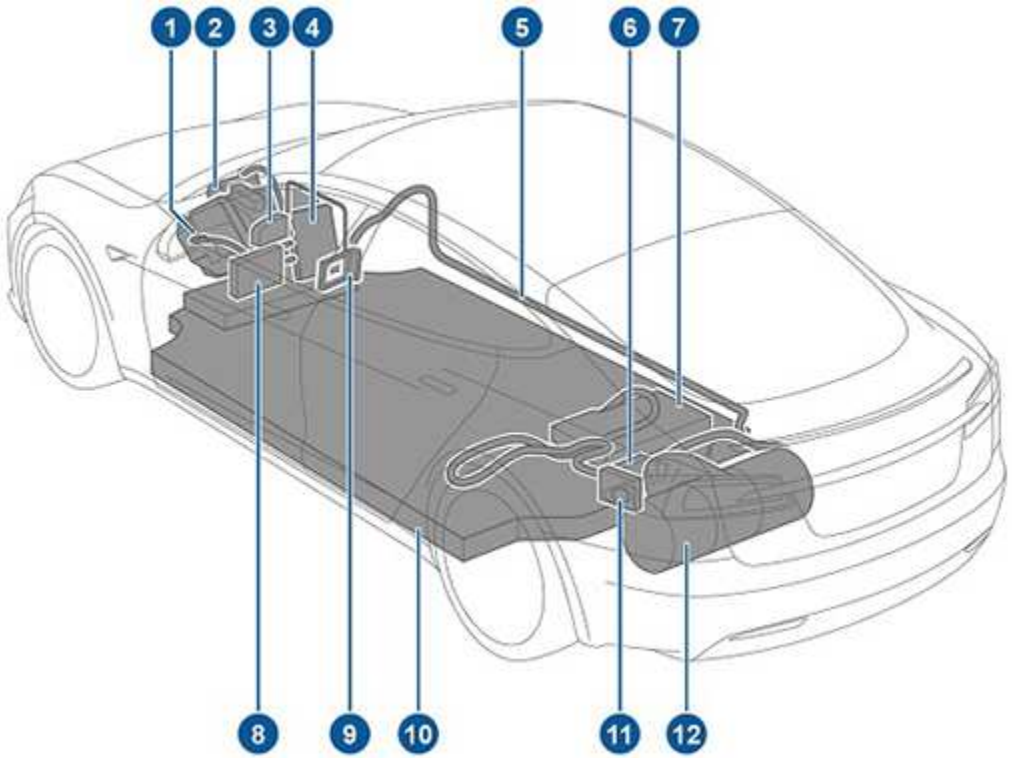
NOTE: The "D" at the end of the battery badge (or "DUAL MOTOR" badge for newer vehicles) on the RH side of the vehicle indicates that the vehicle is a Dual Motor configuration.



TOUCHSCREEN

Model S can be identified by its 17 in (43 cm) touchscreen.

HIGH VOLTAGE COMPONENTS

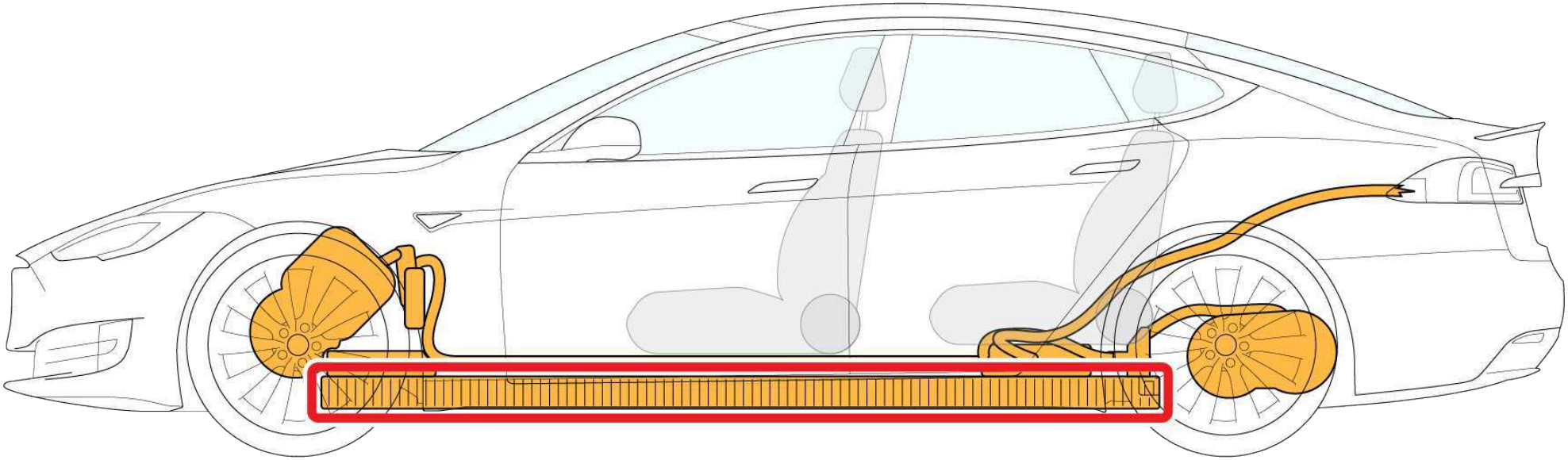


1. Front drive unit (if equipped)
2. A/C compressor
3. Battery coolant heater
4. Front junction box
5. High voltage cabling
6. Rapid splitter
7. Charger
8. DC-DC converter
9. Cabin heater
10. High voltage battery
11. Charge port
12. Rear drive unit

HIGH VOLTAGE BATTERY

Model S is equipped with a floor-mounted 400 volt lithium-ion high voltage battery. 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 Lifting the Vehicle on page 24 for instructions on how to properly lift the vehicle.

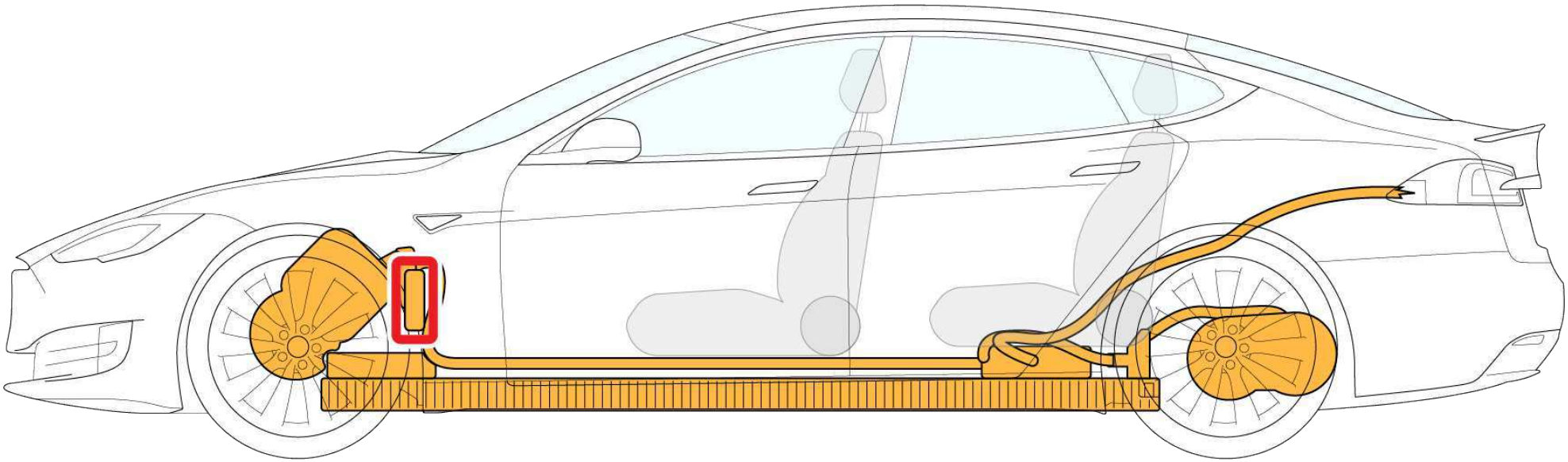
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



DC-DC CONVERTER AND FRONT JUNCTION BOX

High voltage is present at the DC-DC converter and front junction box, as outlined in red. The DC-DC converter transforms the high voltage current from the high voltage battery to low voltage to charge the Model S 12 volt battery. The front junction box provides high voltage current to various components, such as the battery heater, air conditioning compressor, and cabin heater. Use caution when cutting in this area during a dash lift and dash roll procedure. Use work-around techniques, if necessary.

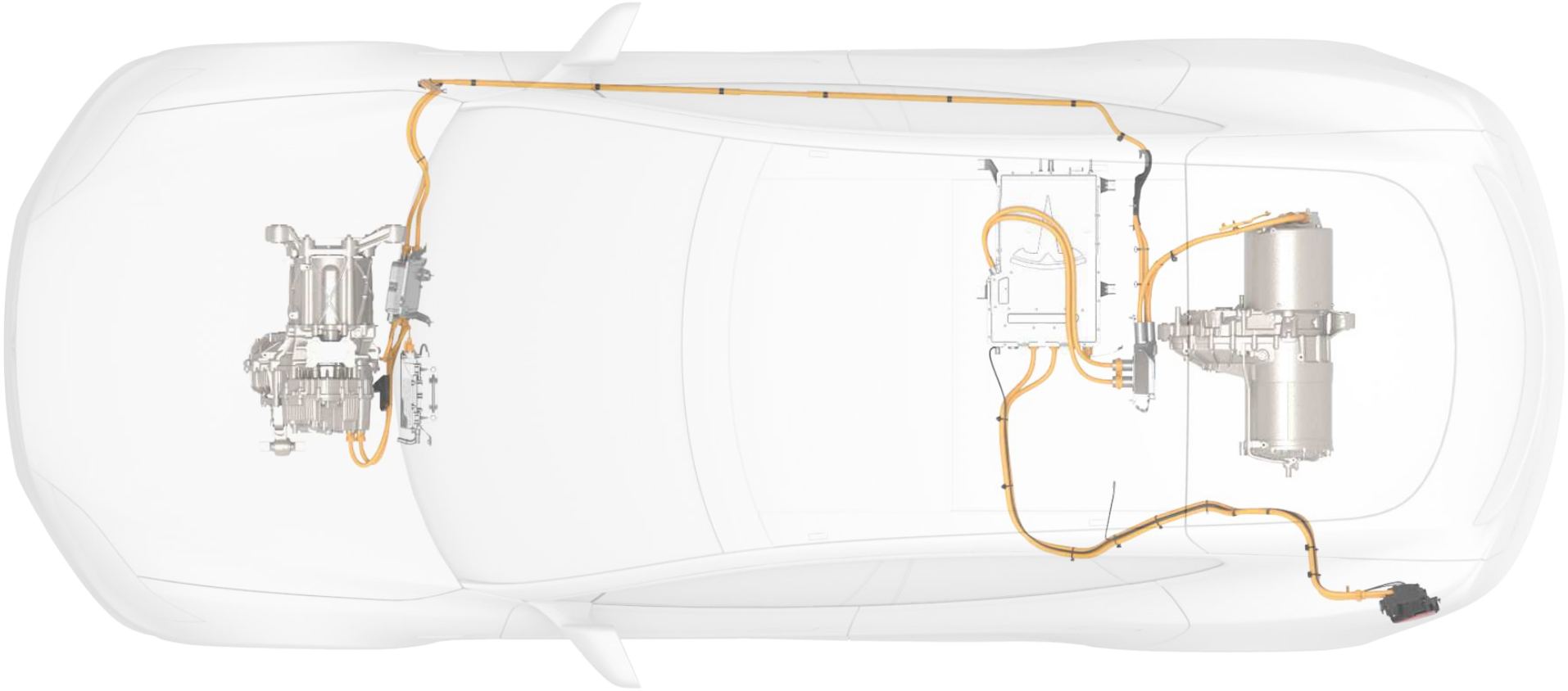
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



HIGH VOLTAGE CABLES

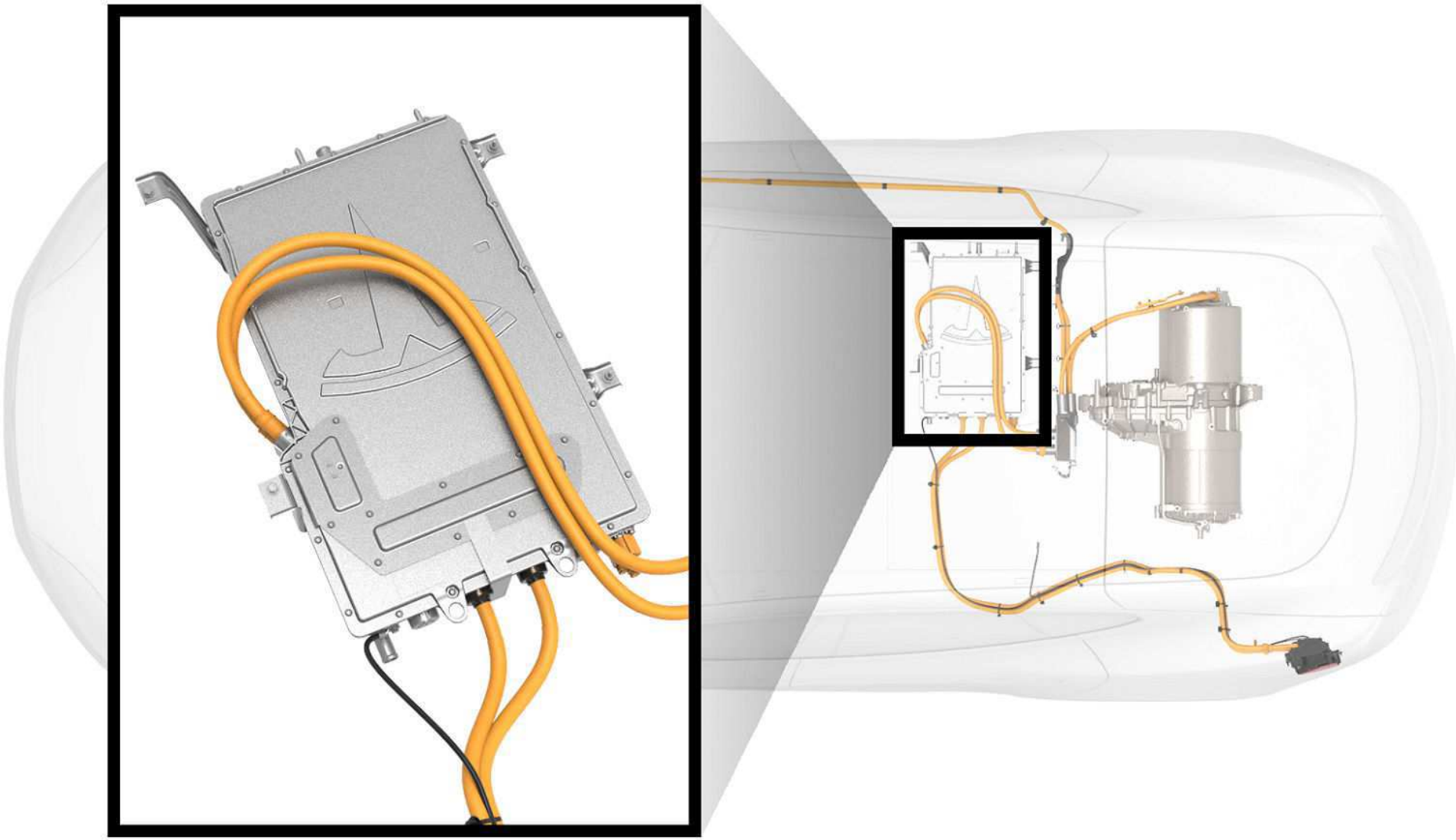
High voltage cables are shown in orange.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar. The motors depicted in this image may not exactly match the vehicle you are working on.



CHARGER

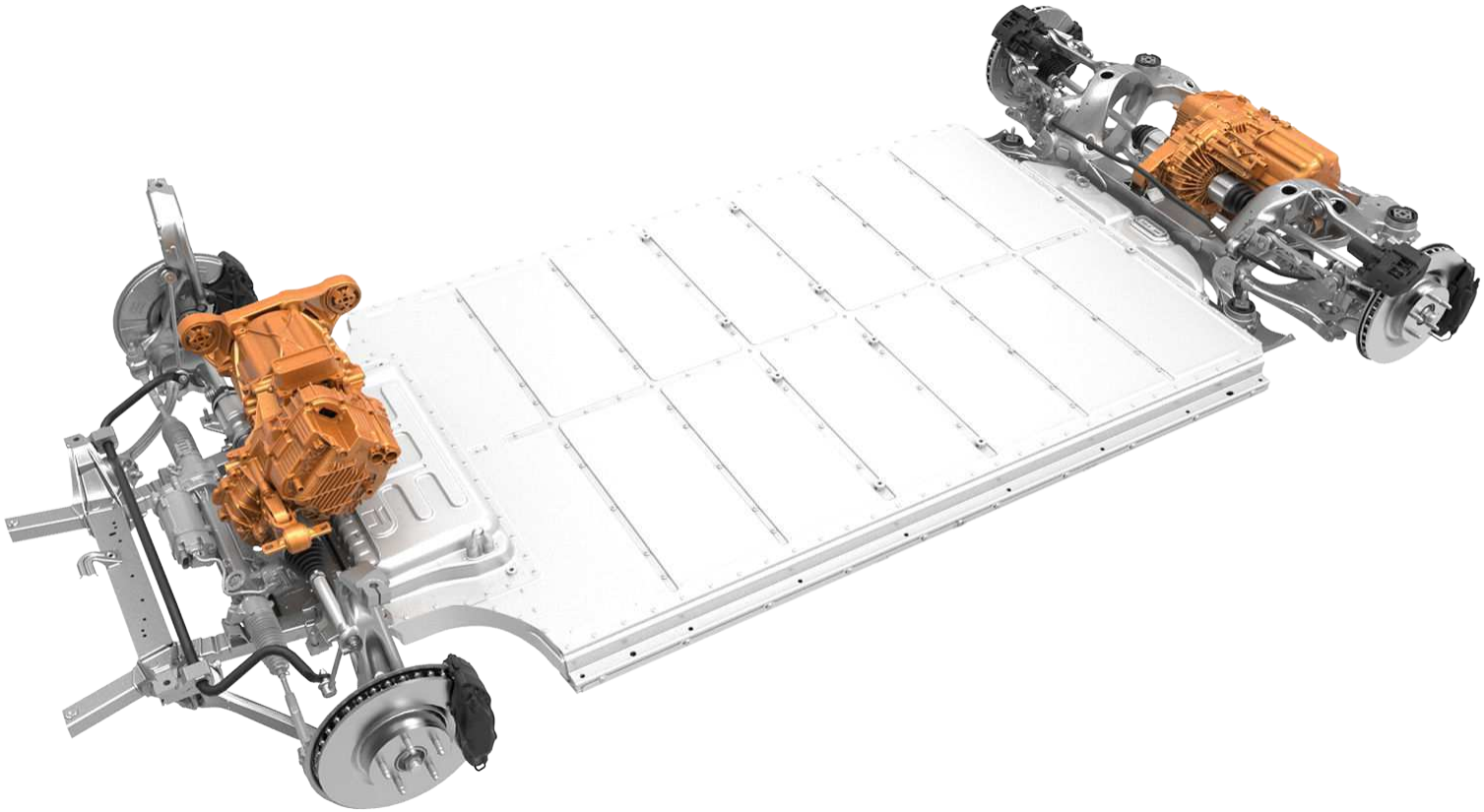
Model S has one charger located under the rear seats. This charger converts alternating current (AC) from a charging station to direct current (DC) for charging the high voltage battery. The high voltage junction box, integrated into the charger, routes any surplus energy from regenerative braking back to the high voltage battery.



DRIVE UNITS

The rear drive unit is located between the rear wheels, and the front drive unit (if equipped) is located between the front wheels. The drive units convert the direct current (DC) from the high voltage battery into 3-phase alternating current (AC) that the drive units use to power the wheels.

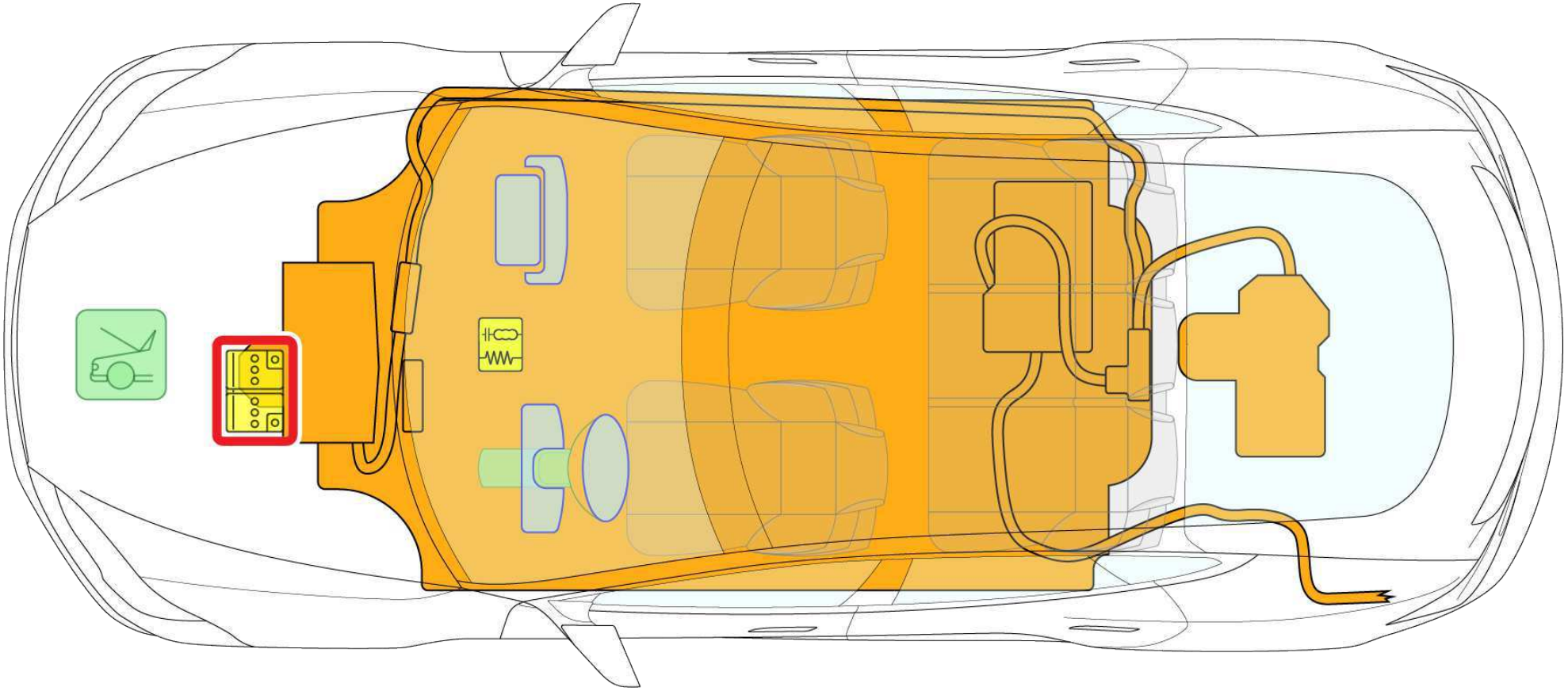
NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar. The motors depicted in this image may not exactly match the vehicle you are working on.



12 VOLT BATTERY

In addition to the high voltage system, Model S has a low voltage electrical system. Its 12 volt battery operates the SRS, airbags, windows, door locks, touchscreen, and interior and exterior lights. The DC-DC converter in the high voltage system charges the 12 volt battery, and the 12 volt battery supplies power to the high voltage contactors, allowing high voltage current to flow into and out of the high voltage battery. The 12 volt battery, outlined in red, is located under the hood and the plastic access panel.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.



CHOCK ALL FOUR WHEELS

Model S moves silently, so never assume it is powered off. Drivers can choose a setting that determines whether or not Model S will "creep" when a drive gear is selected. If this setting is off, Model S may not move unless the accelerator is pressed, even if shifted into Drive or Reverse. However, never assume that Model S will not move. Always chock the wheels.

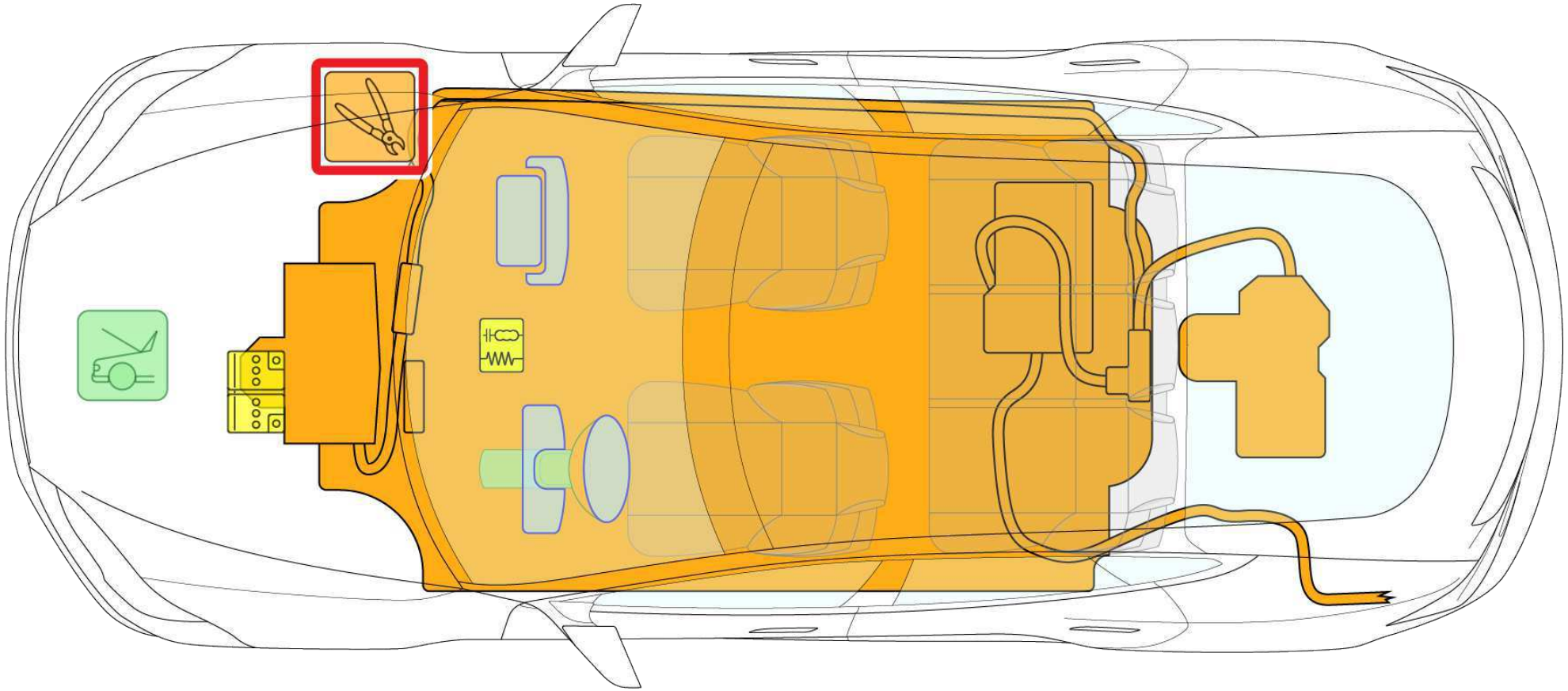
SHIFT INTO PARK

Model S moves silently, so never assume it is powered off. Pressing the accelerator pedal even slightly can cause Model S to accelerate quickly if the active gear is Drive or Reverse. To ensure that the parking brake is engaged, press the button on the end of the gear selector to shift into Park. Whenever Model S is in Park, the parking brake is automatically engaged and the instrument cluster shows the active gear as Park (P).

FRONT TRUNK FIRST RESPONDER CUT LOOP

The first responder loop is a low voltage harness. Cutting the first responder loop shuts down the high voltage system outside of the high voltage battery and disables the SRS and airbag components. Refer to Cutting the Front Trunk First Responder Loop on page 14 for instructions on how to access and cut the first responder loop.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.

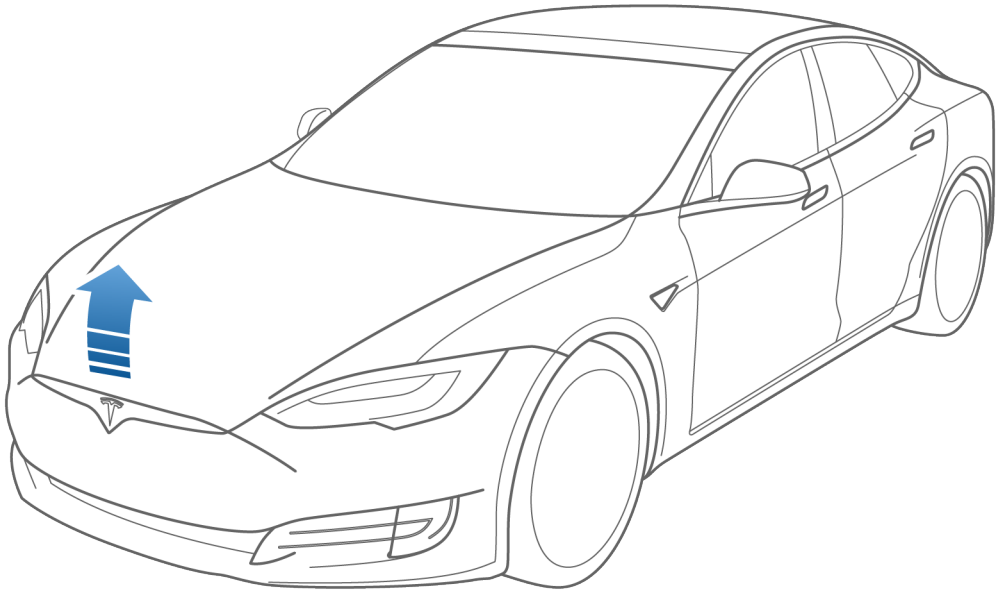


⚠ **Warning:** Regardless of the disabling procedure you use, ALWAYS ASSUME THAT ALL HIGH VOLTAGE COMPONENTS ARE ENERGIZED! Cutting, crushing, or touching high voltage components can result in serious injury or death.

CUTTING THE FRONT TRUNK FIRST RESPONDER LOOP

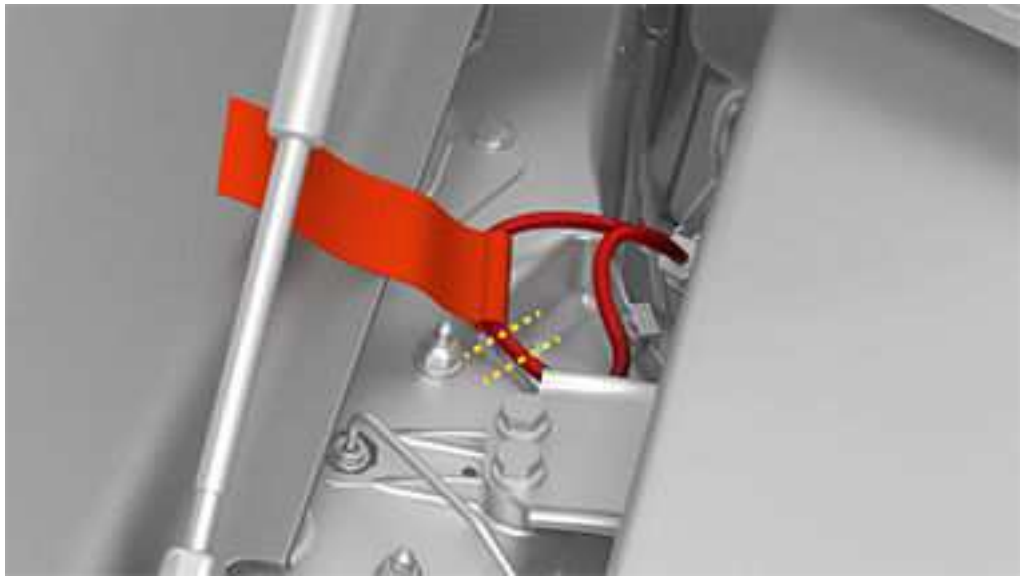
When cutting the first responder loop, double cut it to remove an entire section. This prevents the wires from accidentally reconnecting.

1. Open the hood. Refer to Opening the Hood on page 27 for instructions.



2. Remove the access panel (shown in red) by pulling it upwards to release the clips that hold it in place.

3. Double cut the first responder loop.

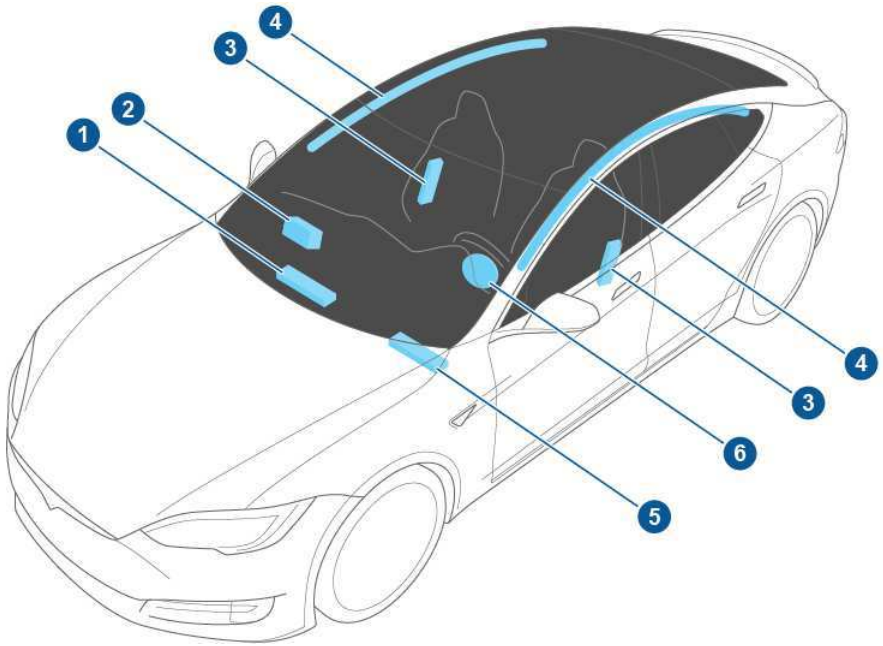


AIRBAGS

Model S is equipped with 6 airbags (8 in North America). Airbags are located in the approximate areas shown. Airbag warning information is printed on the sun visors.

NOTE: Model S is designed to deactivate high voltage in all components and cables outside of the high voltage battery when an airbag is deployed.

NOTE: Left Hand Drive, North American vehicle shown. On Right Hand Drive vehicles, the passenger and driver airbag locations are reversed.

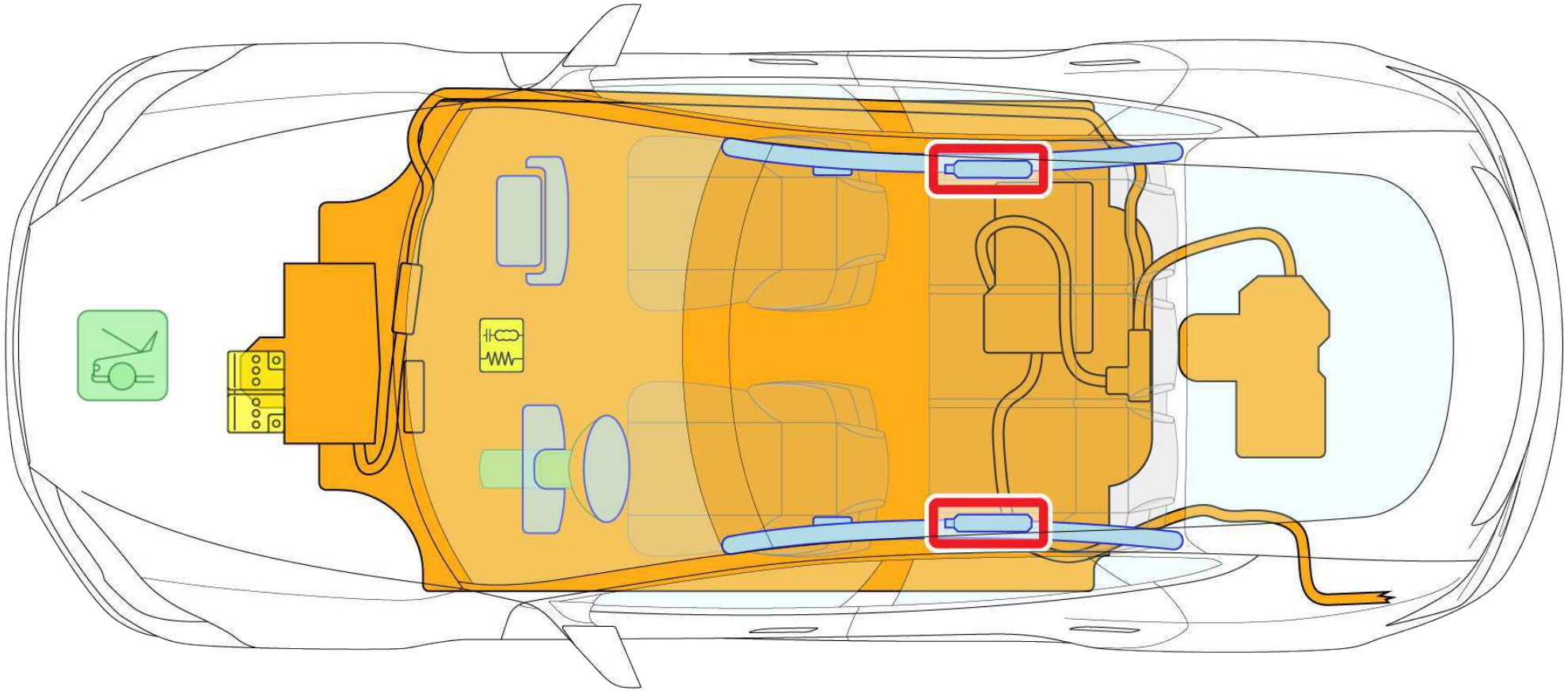


1. Passenger knee airbag (North America only)
2. Passenger front airbag
3. Seat-mounted side airbags
4. Curtain airbags
5. Driver's knee airbag (North America only)
6. Driver's front airbag

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

AIRBAG INFLATION CYLINDERS

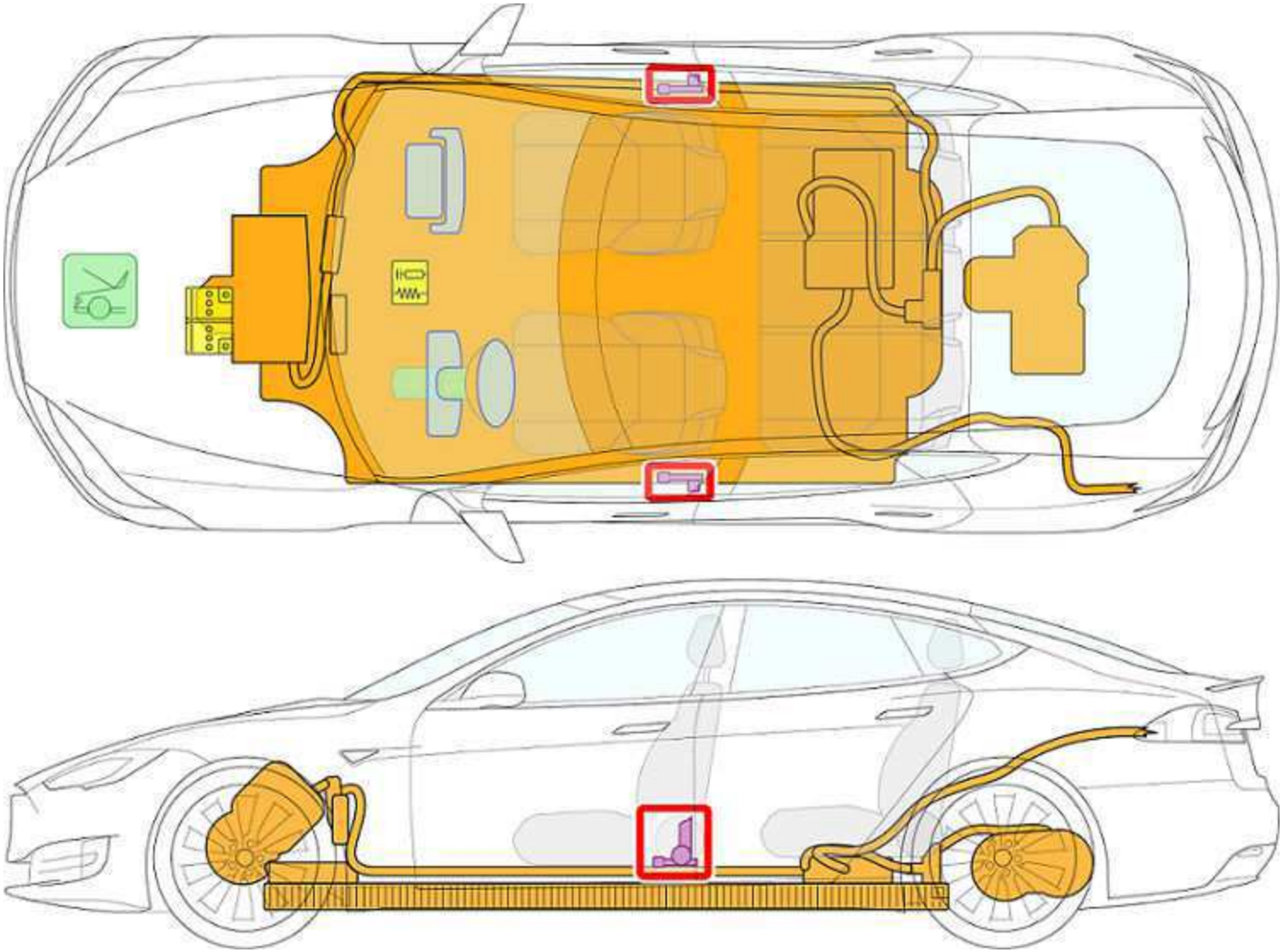
The airbag inflation cylinders, outlined in red, are located near the roof and towards the rear of the vehicle.



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

SEAT BELT PRE-TENSIONERS

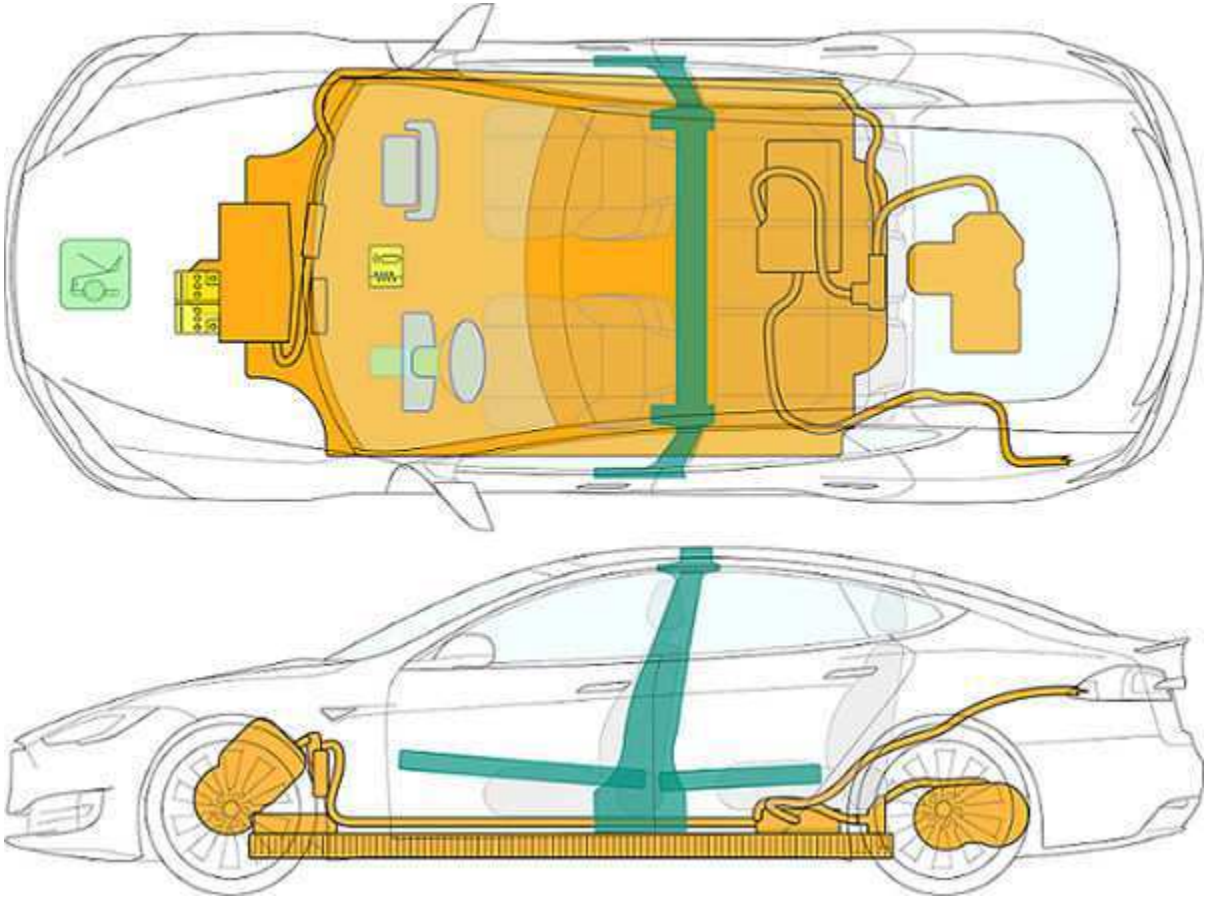
The seat belt pre-tensioners, outlined in red, are located at the bottom of the B-pillars.



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

REINFORCEMENTS AND ULTRA HIGH STRENGTH STEEL

Model S is reinforced to protect occupants in a collision. Suitable tools must be used to cut or crush these areas. Reinforcements are shown in teal below.



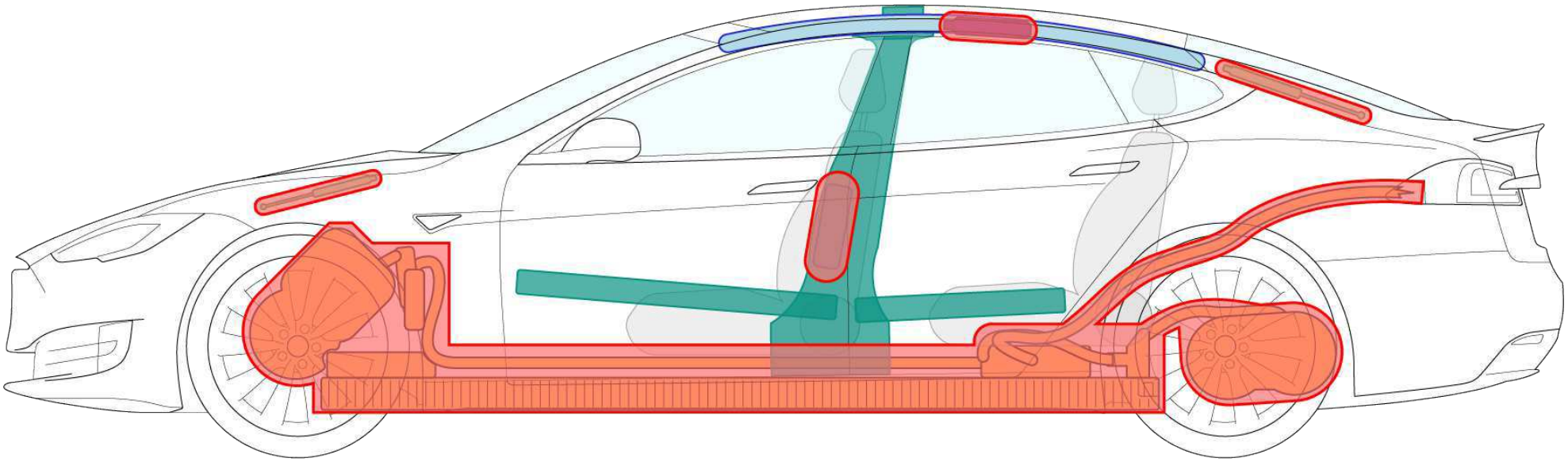
⚠ **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model S. Failure to follow these instructions can result in serious injury or death.

⚠ **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.

NO-CUT ZONES

Model S 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.

NOTE: The following image shows a Dual Motor vehicle. Vehicles without a front drive unit are similar.

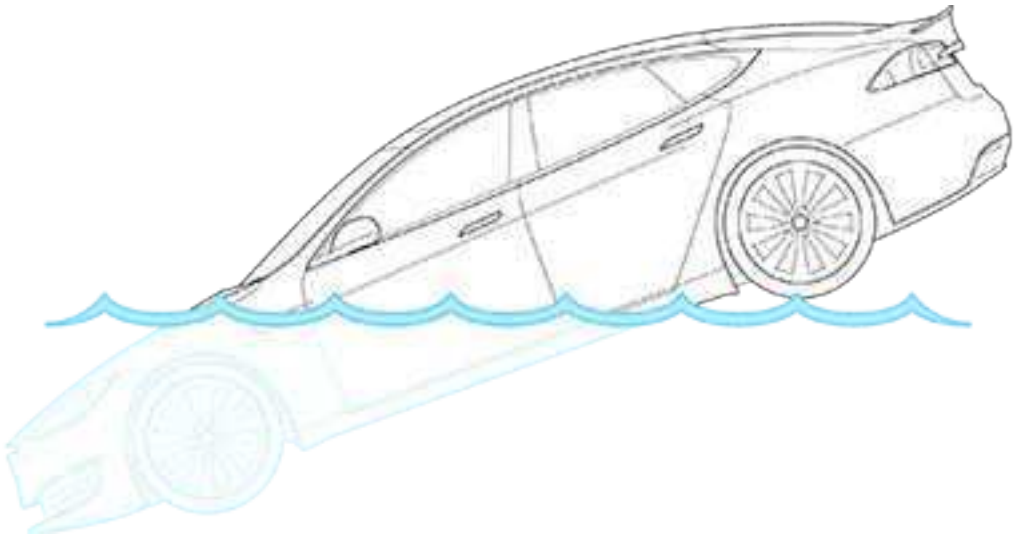


⚠ **Warning:** Always use appropriate tools, such as a hydraulic cutter, and always wear appropriate PPE when cutting Model S. Failure to follow these instructions can result in serious injury or death.

⚠ **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.

FULLY OR PARTIALLY SUBMERGED VEHICLES

Treat a submerged Model S like any other submerged vehicle. The body of Model S does not present a greater risk of shock because it is in water. However, handle any submerged vehicle while wearing the appropriate PPE. Remove the vehicle from the water and continue with normal high voltage disabling.



⚠ **Warning:** Handling a submerged vehicle without appropriate PPE can result in serious injury or death.

PUSHING ON THE FLOOR PAN

The high voltage battery is located below the floor pan. Never push on the floor pan inside Model S. Doing so can breach the high voltage battery, which can cause serious injury or death.

FIREFIGHTING

USE WATER TO FIGHT A HIGH VOLTAGE BATTERY FIRE. If the battery catches fire, is exposed to high heat, or is generating heat or gases, use large amounts of water to cool the battery. It can take approximately 3,000 gallons (11,356 liters) of water, applied directly to the battery, to fully extinguish and cool down a battery fire; always establish or request an additional water supply. If water is not immediately available, use dry chemicals, CO2, foam, or another typical fire-extinguishing agent to fight the fire until water is available.

Apply water directly to the battery. If safety permits, lift or tilt the vehicle for more direct access to the battery. Apply water inside the battery ONLY if a natural opening (such as a vent or opening from a collision) already exists. Do not open the battery for the purpose of cooling it.

Extinguish small fires that do not involve the high voltage battery using typical vehicle firefighting procedures.

During overhaul, do not make contact with any high voltage components. Always use insulated tools for overhaul.

Heat and flames can compromise airbag inflators, stored gas inflation cylinders, gas struts, and other components which can result in an unexpected explosion. Perform an adequate knock down before entering a hot zone.

Battery fires can take up to 24 hours to extinguish. Consider allowing the battery to burn while protecting exposures.

After all fire and smoke has visibly subsided, a thermal imaging camera can be used to actively measure the temperature of the high voltage battery and monitor the trend of heating or cooling. There must not be fire, smoke, or heating present in the high voltage battery for at least one hour before the vehicle can be released to second responders (such as law enforcement, vehicle transporters, etc.). The battery must be completely cooled before releasing the vehicle to second responders or otherwise leaving the incident. Always advise second responders that there is a risk of battery re-ignition.

Second responders may choose to drain excess water out of the vehicle by tilting or repositioning it. This operation can assist in mitigating possible re-ignition.

Due to potential re-ignition, a Model S that has been involved in a submersion, fire, or a collision that has compromised the high voltage battery should be stored in an open area at least 50 ft (15 m) from any exposure.

⚠ **Warning:** When fire is involved, consider the entire vehicle energized. Always wear full PPE, including a SCBA.

HIGH VOLTAGE BATTERY - FIRE DAMAGE

A burning or heated battery releases toxic vapors. These vapors may include volatile organic compounds, hydrogen gas, carbon dioxide, carbon monoxide, soot, particulates containing oxides of nickel, aluminum, lithium, copper, cobalt, and hydrogen fluoride. Responders should always protect themselves with full PPE, including a SCBA, and take appropriate measures to protect civilians downwind from the incident. Use fog streams or positive-pressure ventilation fans (PPV) to direct smoke and vapors.

The high voltage battery consists of lithium-ion cells. These cells are considered dry cells. If damaged, only a small amount of fluid can leak. Lithium-ion battery fluid is clear in color.

The high voltage battery, charge controller(s), DC-DC converter, and drive unit(s) are liquid cooled with a typical glycol-based automotive coolant. If damaged, this blue coolant can leak out of the high voltage battery.

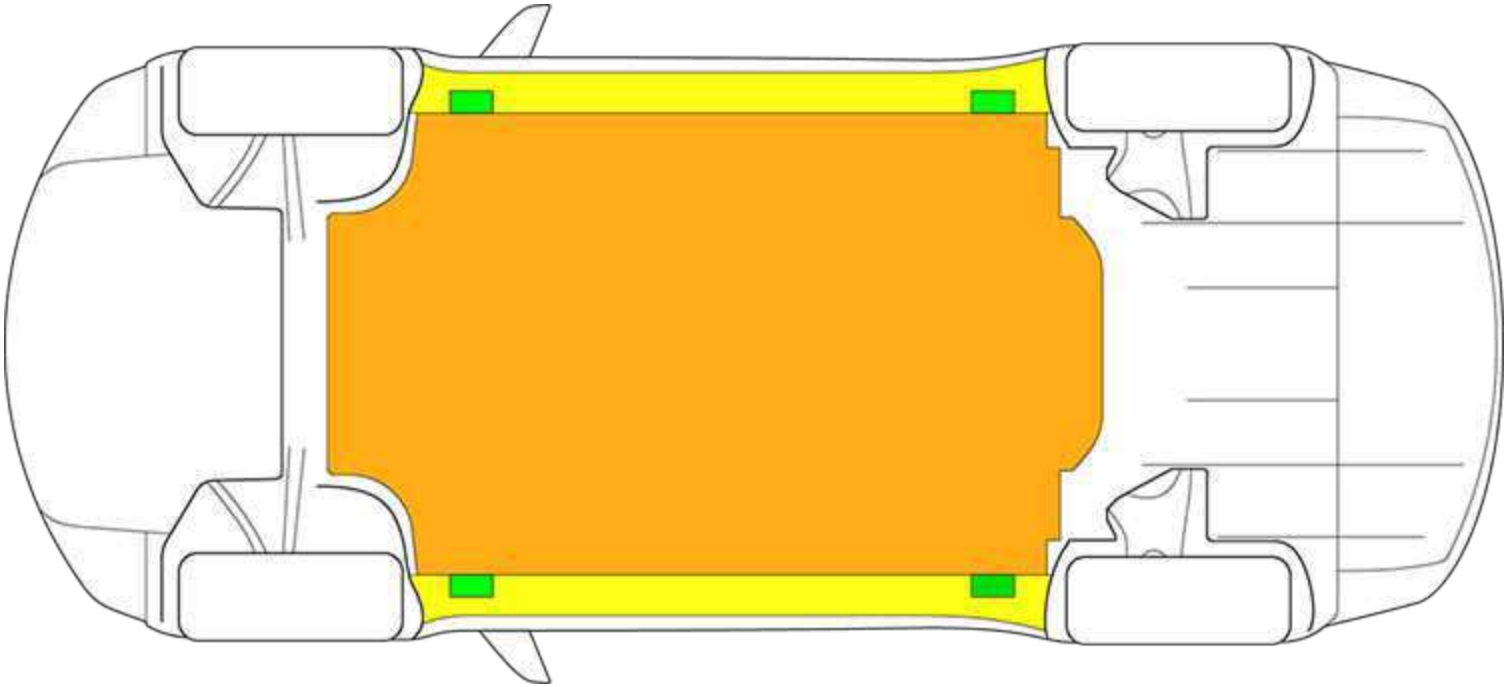
A damaged high voltage battery can create rapid heating of the battery cells. If you notice smoke coming from the high voltage battery, assume that it is heating and take appropriate action as described in Firefighting on page 22.

LIFT AREAS

The high voltage battery is located under the floor pan. A large section of the undercarriage houses the high voltage battery. When lifting or stabilizing Model S, only use the designated lift areas, as shown in green.

⚠ **Warning:** The vehicle should be lifted or manipulated only if first responders are trained and equipped at the technician level per NFPA (National Fire Protection Association) and are familiar with the vehicle's lifting points. Use caution to ensure you never come into 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 TO LIFT OR STABILIZE MODEL S.



Appropriate lift areas

Safe stabilization points for a Model S resting on its side

High voltage battery

USING THE KEY

Use the key buttons as shown below.

1. Rear trunk. Double-click to open the rear trunk.
2. Unlock all. Double-click to unlock doors and both trunks.
3. Hood/front trunk. Double-click to open the hood to access the front trunk.

OPENING DOORS

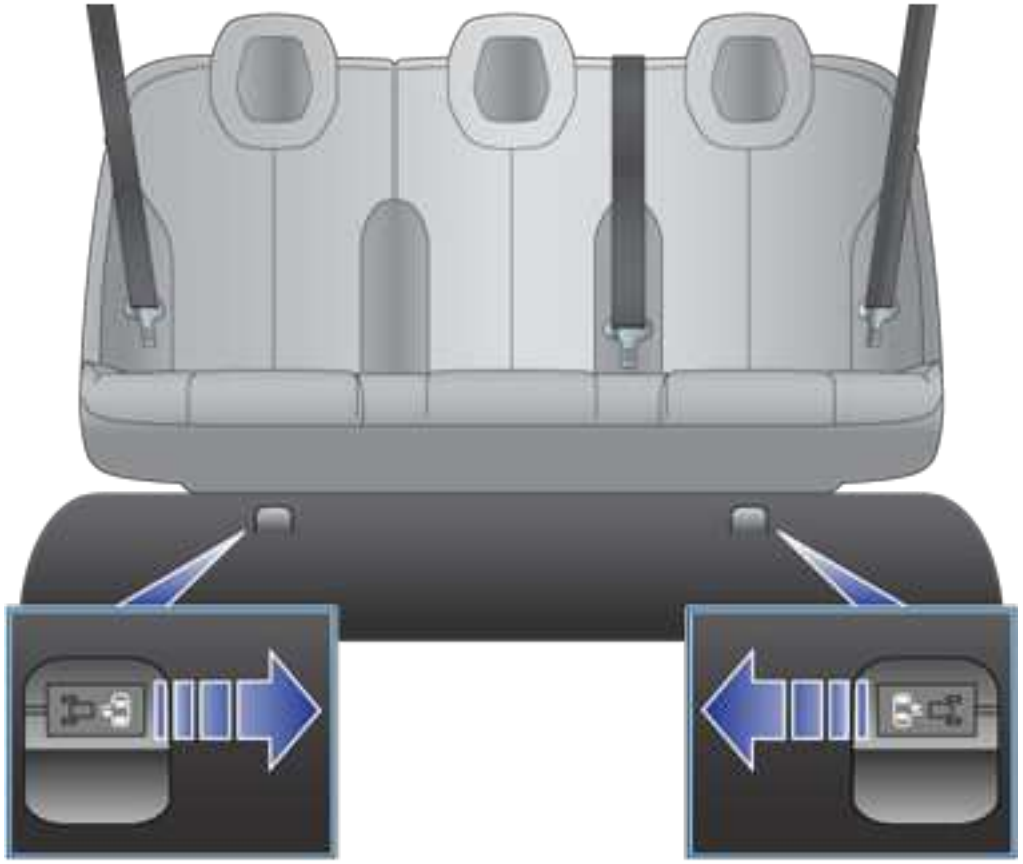
Model S has unique door handles. Under normal conditions, when you press a handle, it extends to allow you to open the door.

NOTE: When an airbag inflates, Model S is designed to unlock all doors, the trunk, and extends all door handles.

NOTE: If the door handles do not function, open the door manually by reaching inside the window and using the interior door handle.

OPENING REAR DOORS WITHOUT POWER

Open the rear doors by folding back the edge of the carpet below the rear seats to access the mechanical release cables. Pull the release cables towards the center of the vehicle.

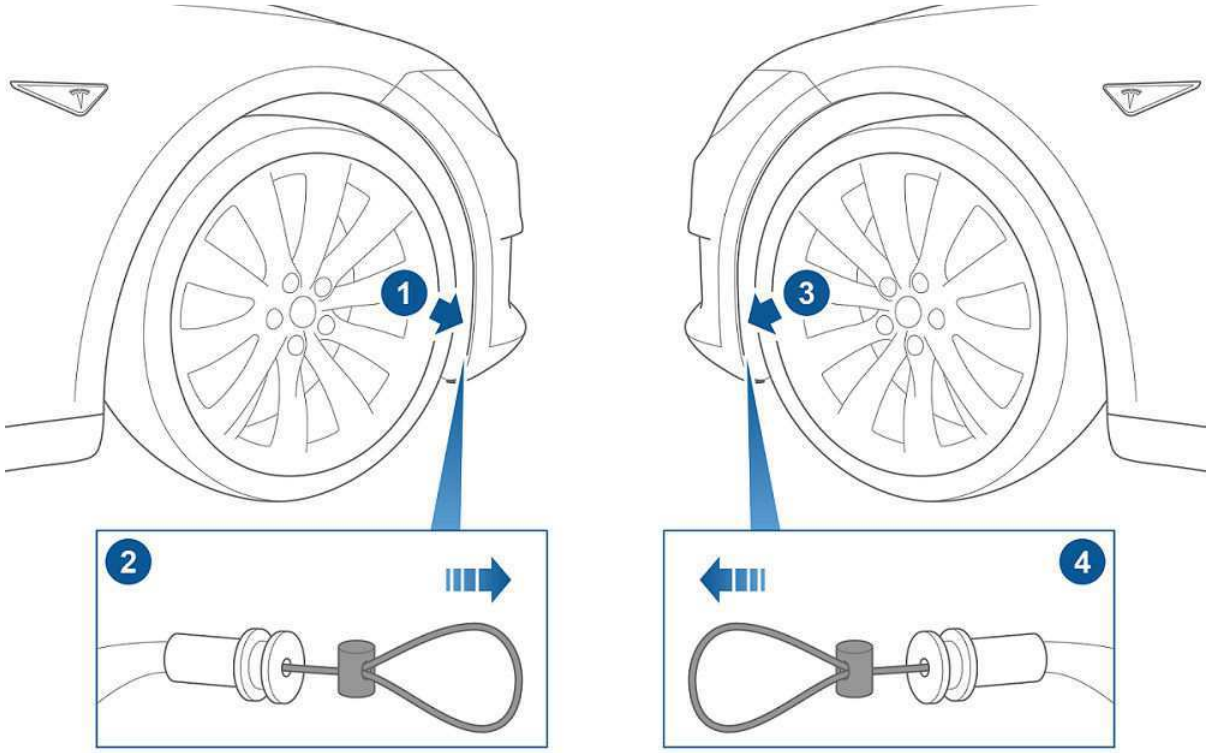


OPENING THE HOOD

Model S does not have a traditional internal combustion engine. Therefore, the area that would normally house the engine is used as additional storage space. Tesla calls this area the “Front Trunk”.

To open the hood, use one of the following methods:

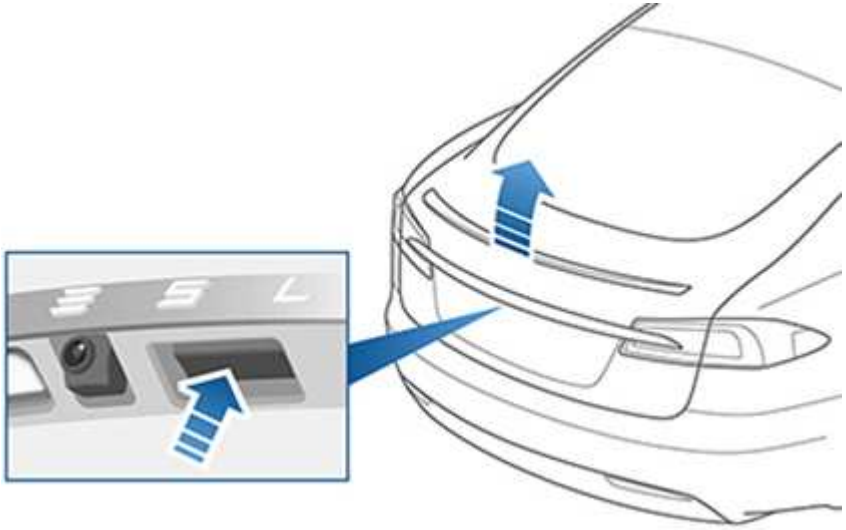
- Touch the associated OPEN button on the touchscreen (Controls > Quick Controls) for the front trunk.
- Double-click the front trunk button on the key.
- Pull the release cables located in the front wheel arch liners. First, release the cover in the RH front wheel well and pull the strap to release the primary latch. Then, release the cover in the LH front wheel well and pull the strap to release the secondary latch.



OPENING THE TRUNK

Use one of the following methods to open the trunk:

- Touch the associated OPEN button on the touchscreen (Controls > Quick Controls) for the trunk.
- Double-click the trunk button on the key.
- Press the switch located under the exterior handle on the trunk.



PUSHING THE VEHICLE

⚠ **Warning:** The following instructions are intended to be used when only moving Model S a very short distance to improve traffic safety. Refer to the Owner's Manual on the touchscreen or the Roadside Assistance Guide in the glovebox for instructions on how to transport Model S. Damage caused by transporting the vehicle is not covered by the warranty.

⚠ **Warning:** Do not push Model S with its wheels in a position where they can spin, such as in contact with the ground. If this must be done, use a wheel lift and dollies to ensure that all four wheels are off the ground. This may be done for a maximum of 35 miles (55 km), and must not exceed the manufacturer speed rating of the dollies. Tesla recommends the vehicle face forward so the front wheels are lifted and the rear wheels are on dollies. Transporting Model S using any method not specified by Tesla can result in significant damage to the vehicle and can cause serious injury.

In situations where there is minimal risk of fire or high voltage exposure (for example, the vehicle does not accelerate after coming to a stop at an intersection) and 12V power is present, Model S can be quickly pushed in order to clear the roadway. If a driver is present, simply shift Model S into Neutral and then push the vehicle. If a driver is not present, Model S may automatically shift into Park when it detects the driver leaving the vehicle (even if it has previously been shifted into Neutral).

To keep Model S in Neutral (which disengages the parking brake and allows the vehicle to be pushed) without a driver present, use the touchscreen to activate Transport Mode:

1. Ensure Model S is in Park.
2. Press and hold the brake pedal, then on the touchscreen touch Controls > Service > Towing.
3. Hold the Transport Mode button until it turns blue. Model S is now free-rolling and can be slowly rolled (no faster than walking speed) or winched.

NOTE: Model S must detect a key nearby and 12V power is required for Transport Mode to activate.

When Transport Mode is active, Model S displays this indicator light on the instrument panel, along with a message indicating that Model S is free-rolling.

To cancel Transport Mode, shift Model S into Park.

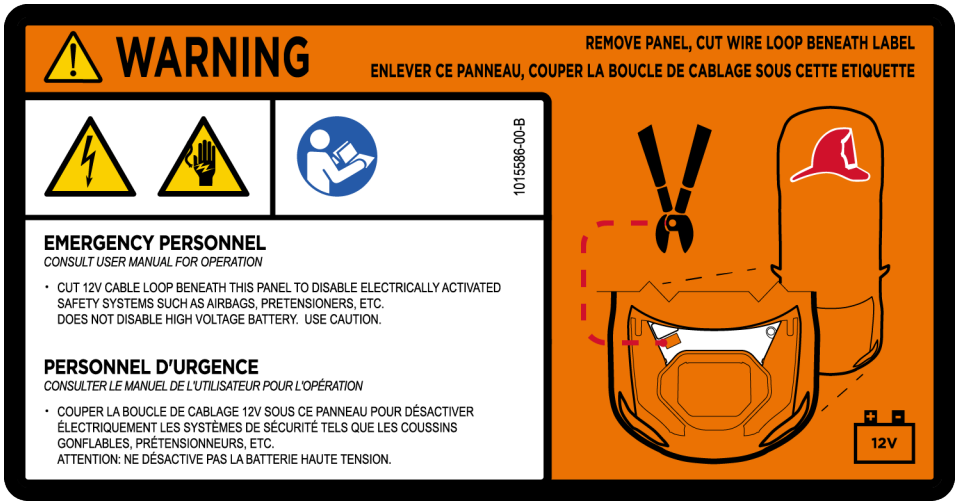
NOTE: If the electrical system is not working, and you therefore cannot use the touchscreen to activate Transport Mode, use self-loading dollies or tire skates. Before doing so, always check the manufacturer's specification and recommended loading capacity. Alternatively, attempt to jump start the 12V battery. For instructions, call Tesla Roadside Assistance

EXAMPLE OF A HIGH VOLTAGE LABEL

An example of a label located on a high voltage component is shown below. Note that, depending on the market region and vehicle build date, labels might change or be translated into other languages.

NOTE: High voltage labels may not be present newer vehicles. Do not rely on the labels to warn you of high voltage components. Always assume all high voltage components are energized.

⚠ **Warning:** Not every high voltage component is labeled. Always wear appropriate PPE when cutting Model S. Failure to follow these instructions can result in serious injury or death.



CONTACT US

First Responders and Second Responders with emergencies should call Tesla Roadside Assistance. Refer to https://www.tesla.com/roadside-assistance for the applicable number.

First Responders and training officers who have questions, please contact firstrespondersafety@tesla.com.

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