

Service Mode User Guide



Service Mode is a diagnostic and repair interface available on the vehicle touchscreen to help both internal and third-party technicians service Tesla vehicles more efficiently. Service Mode limits the vehicle speed / torque for increased safety and sets some settings to default values that are helpful for technicians.

Service Mode Plus adds to the capabilities of Service Mode, including advanced functionalities for repair professionals with a diagnostic software subscription. To enter Service Mode Plus using Toolbox, the vehicle must be locally connected to a computer.

More information can be found on the [Service Mode](https://service.tesla.com) page of service.tesla.com.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

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Common Abbreviations and Terms

For a list of abbreviations or acronyms most relevant to the model being worked on, see Service Manual > General Information > Introduction > Abbreviations and Symbols. The abbreviations listed below are used in this document.

Abbreviation	Definition
AC	Alternative Current
BMS	Battery Monitoring System
CAC	Calculated Amp-Hour Capacity
CAN	Controller Area Network
CCS	Combined Charging System
DAS	Driver Assist System
DC	Direct Current
DI	Drive Inverter
ECU	Electronic Control Unit
EPAS	Electronic Power Assist Steering
EPB	Electronic Parking Brake
HV	High Voltage
HVAC	Heating Ventilation Air Conditioning
HVC	High Voltage Controller
HVIL	High Voltage Interlock Loop
HVP	High Voltage Processor
LV	Low Voltage
PCS	Power Conversion System
RCM	Restraint Control Module
SCCM	Steering Column Control Module
SOC	State of Charge
SOH	State of Health
TAS	Tesla Air Suspension
USS	Ultra Sonic Sensor
VCFRONT	Vehicle Controller Front
VCLEFT	Vehicle Controller Left
VCRIGHT	Vehicle Controller Right

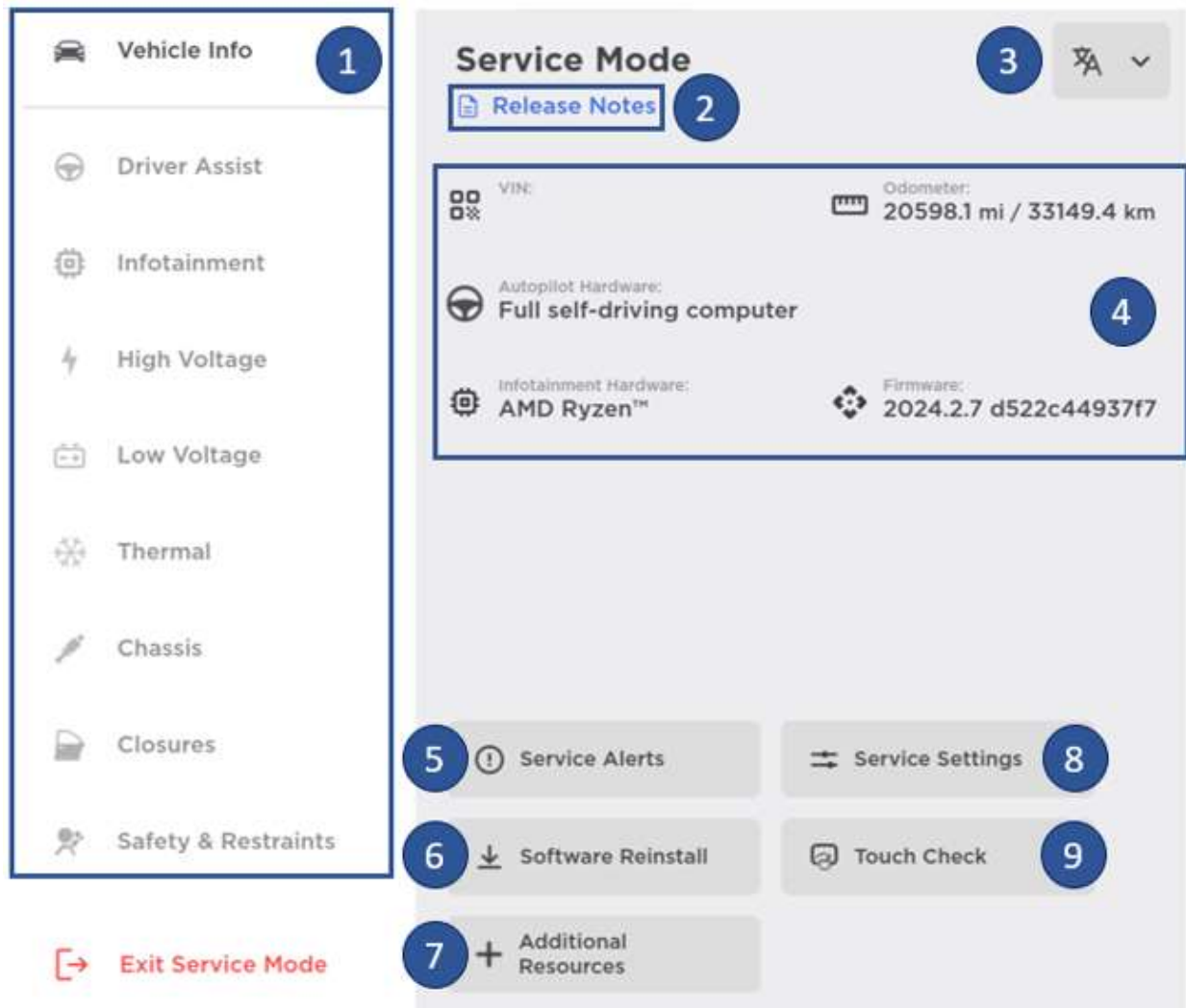
NOTE

Throughout this Manual, vitals are a reference to measurements that are taken to help assess the general health of the vehicle, give clues to possible issues, and provide possible repairs.

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Service Mode Main Panel

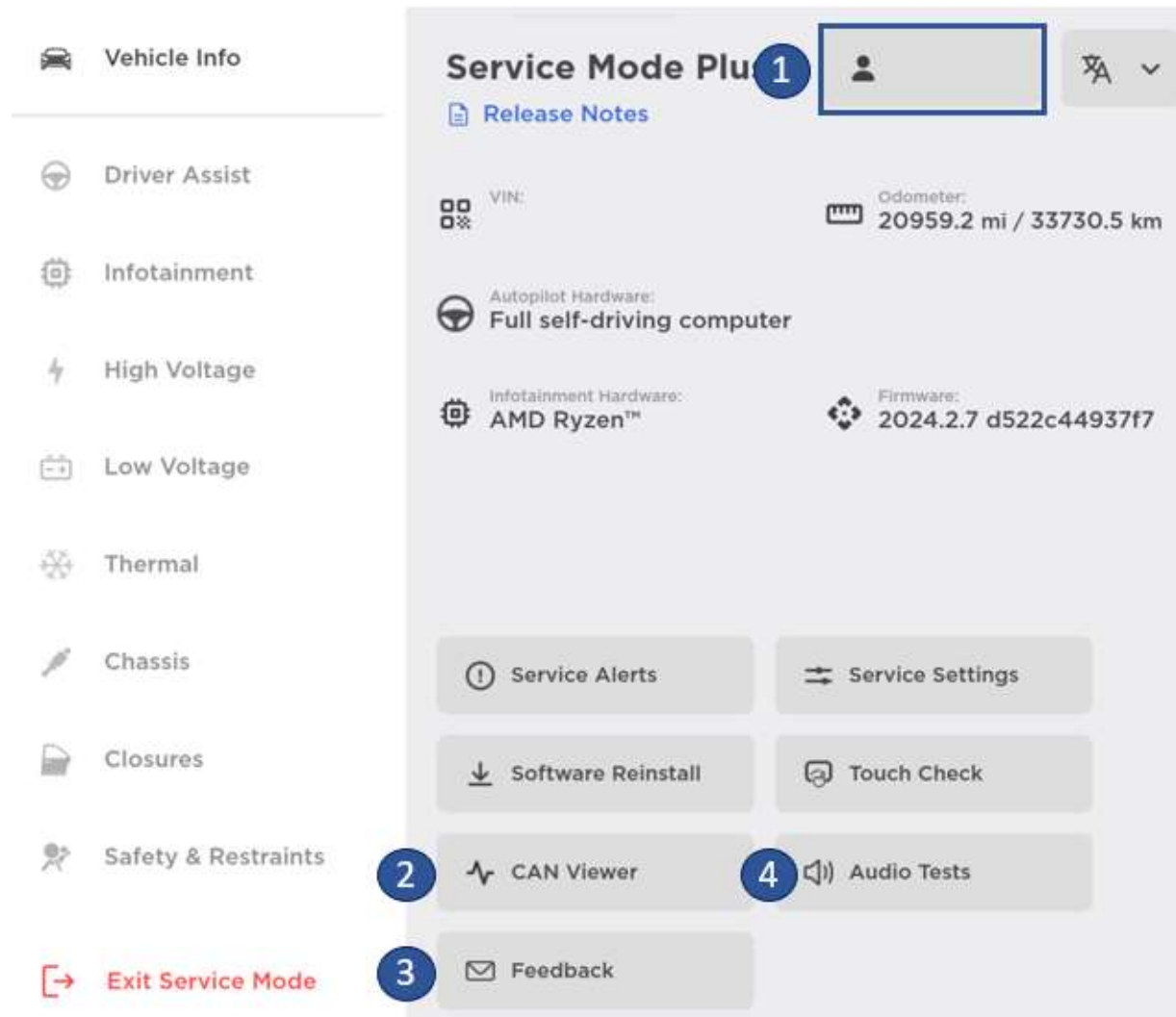
The main panel of Service Mode is always accessible by tapping on **Vehicle Info**.



1. **System Menu:** Service Mode navigation to system specific panels.
2. **Release Notes:** See [Service Mode Release Notes](#).
3. **Language selection:** Users can choose to display Service Mode in their preferred language.
4. **Vehicle information:** Displays basic information about the vehicle.
5. **Service Alerts:** See [Service Alerts](#).
6. **Software Reinstall:** See [Software Reinstall](#).
7. **Additional Resources:** Takes the user to service.tesla.com in vehicle web browser.
8. **Service Settings:** See [Service Settings](#).
9. **Touch Check:** Turns off the screen display to help diagnose false touches.

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Service Mode Plus Main Panel



Additional buttons for:

1. Email address of the user connected to the vehicle.
2. **CAN Viewer:** See [CAN Viewer](#).
3. **Feedback:** Displays a QR Code to scan to provide Service Mode feedback.
4. **Audio Tests:** See [Audio Tests](#).

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Service Alerts

Tapping on the dropdown for each alert will provide more information on that alert.



1. **Active Alerts:** Displays alerts that are currently present on the vehicle.
2. **Recent Alerts:** Displays the last 100 alerts set on the vehicle in chronological order.
3. **Service-Fix:** Filters alerts to only those with "service-fix" as an audience.
4. **Customer:** Filters alerts to only those with "customer" as an audience.
5. **All:** Displays all alerts without an audience filter.
6. **Manual:** Takes the user to the Troubleshooting Alerts section of the Owner's Manual for that alert to learn more about what the alert means and what to do about it.

NOTE

In Service Mode Plus, there is an additional "Service" tab to filter alerts to only those with "service" as an audience.

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What do the different alert audiences mean?

Customer

An alert with "customer" as an audience has a two-line message to communicate to the customer via the vehicle UI (Instrument Cluster and/or Touchscreen).

Service-Fix

An alert with "service-fix" as an audience requires rectification. Its presence is a call to action for a technician. This alert is only shown on the vehicle UI while in Service Mode.

Service

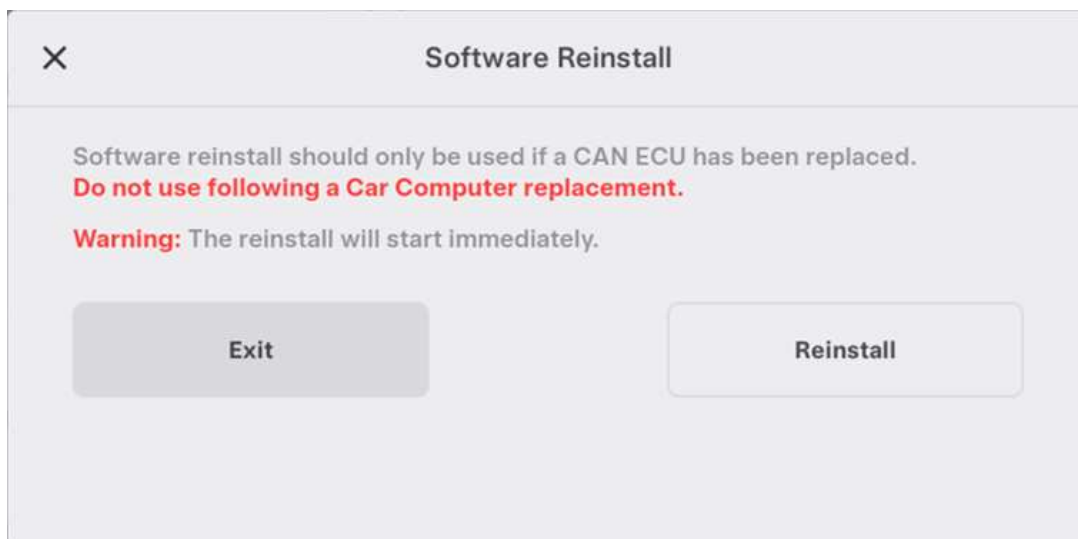
An alert with "service" as an audience is sometimes relevant for servicing a vehicle, but on its own does not require rectification. This alert is only shown on the vehicle UI while in Service Mode Plus.

Software Reinstall

Software Reinstall installs the current software version to a component without downloading the full software package again. The vehicle software version cannot be updated from here.

Model 3 & Model Y Software Reinstall

On Model 3 and Model Y, Software Reinstall only reinstalls software on CAN ECUs.



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Model S & Model X Software Reinstall

On Model S and Model X, there are additional options to perform one of the following types of reinstalls:

- **Full** - Installs software on both DAS and CAN ECUs.
- **CAN ECU** - Installs software on only CAN ECUs.
- **DAS** - Installs software on only DAS ECUs.

×

Software Reinstall

Software reinstall should only be used if a DAS or CAN ECU has been replaced.
Do not use following a Media Control Unit replacement.

Reinstall Type

Full

CAN ECU

DAS

CAN ECU: Use after replacing a CAN ECU (default).
Warning: The reinstall will start immediately.

Exit

Reinstall

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Service Settings

Service Mode has multiple settings to facilitate operations in a workshop. Some settings are toggled on automatically when entering Service Mode. This panel lists all the changes and allows users to turn off the automated settings, such as the speed limit.

 **Service Settings**

These settings are applied upon entering Service Mode.

Speed is limited to 7mph/11kph
You can remove the speed and torque safety settings.
You are responsible for the safety of the vehicle and your surroundings.

☐ **Remove Speed Limit**

Phone Bluetooth is disabled
All Bluetooth features that require pairing or connection are disabled.

☐ **Enable Phone Bluetooth**

Manual eCall can be disabled
You can disable the manual eCall button if the performed repair might trigger accidental emergency calls.

☐ **Disable Manual eCall**

Active battery heating can be disabled
If disabled, charging performance may be reduced

☐ **Disable active battery heating**

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Service Mode Release Notes

Service Mode Release Notes are developed separately from the vehicle software release notes. Service Mode release notes are intended for a technical audience to inform the user of the latest Service Mode features.

Release Notes

2024.2

[Vehicle Info](#)
Service Mode on Cybertruck

You can now use Service Mode on Cybertruck. Enter Service Mode to explore features and start diagnosing systems such as Etherloop, Steer by Wire, and the Mid Voltage electrical system architecture.

Cybertruck

2023.44

2023.38

2023.32

[Vehicle Info](#)
French Language

You can now use Service Mode in French. Select your preferred language in the drop-down list from Vehicle Info.

Model S, Model X, Model 3, Model Y, Model S (2021+), Model X (2021+)

2023.26

[Low Voltage](#)
New Exterior Lighting Panel (Service Mode Plus)

A new exterior lighting panel is available to help you diagnose lighting systems. To do so, tap Low Voltage > Lighting.

Model 3, Model Y

[High Voltage > HV Battery](#)
New ODIN Routines in HV Battery panel (Service Mode Plus)

You can run the Clear Isolation Counters routine after HV component replacement due to low isolation on Model 3, Model Y, Model S (2021+), Model X (2021+). You can also run the Reset SOC routine on Model S and Model X.

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Audio Tests

The Audio Tests panel is only available while in Service Mode Plus. This panel allows the user to test audio features of the vehicle.

×

Audio Tests

Audio config : Model 3/Y - Base

Warning: Shifting out of Park will close the Audio Tests and may result in UI and audio being temporarily unavailable.

Audio Tests will close upon resetting.

Reset Audio

SOURCE

Sine

Test Track

Play

SPEAKERS

Unselect all

LFM

RFM

LFW

RFW

LRD

RRD

CF

PWS

INPUT LEVELS

Mic 1 -55 dB

Mic 2 -55 dB

Mic 3 -55 dB

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CAN Viewer

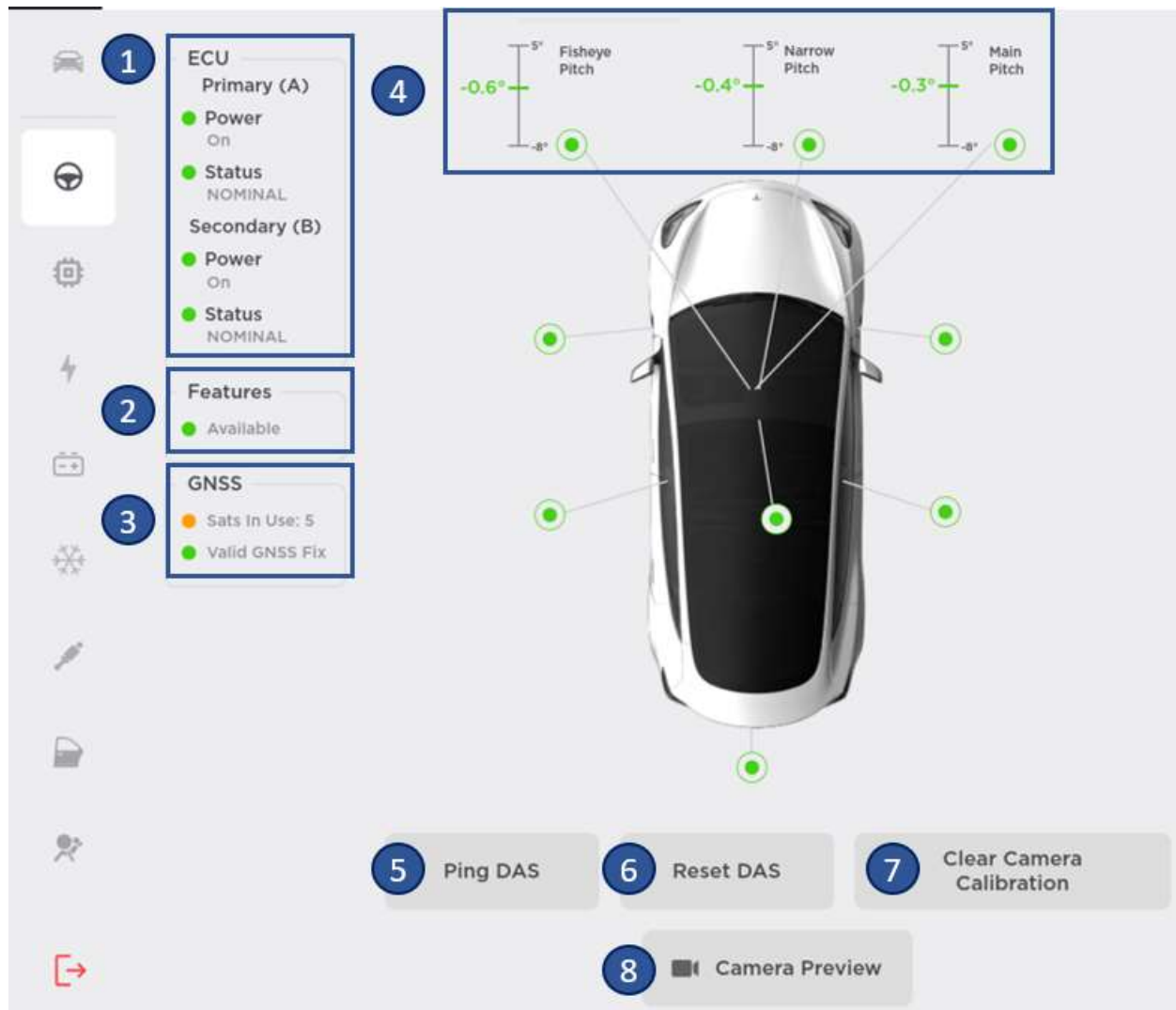
The CAN Viewer panel is only available while in Service Mode Plus. This panel allows the user to monitor a list of live CAN signals.

ETH Messages		Selected Signals		
A		ETH : CP_chargeDoorOpen		0
APP_boardTemperatures	>	×		
APP_camCalibrationStatus	>	×		0
APP_cameraStatus	>	×		OFF
APS_state	>	×		0
APS_status	>	×		
B		ETH : DI_vehicleSpeed		-0.000000894 kph
BMS_bmbMinMax	>			
BMS_hvBusStatus	>			
BMS_log2	>			

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Driver Assist

Cameras



1. **ECU:** DAS ECU status
2. **Features:** DAS features status
3. **GNSS:** GPS antenna status
4. **Triple camera angles:** Displays the current angles of the triple camera.

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5. **Ping DAS:** Runs ODIN routine PING-TP_DAS to confirm the DAS ECU is online and able to communicate.
6. **Reset DAS:** Runs ODIN routine TEST-RESET_DAS to reset the DAS ECU. Use after replacing cameras.
7. **Clear Camera Calibration:** Runs ODIN routine PROC_DAS_X_CLEAR-CALIBRATION to clear camera calibration. Use after adjusting the camera angles.
8. **Camera Preview:** View all the camera feeds together.

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Sensors

This panel shows the status of parking sensors.



The buttons described below are only available on vehicles with Tesla USS:

1. **Program Front USS:** Runs ODIN routine PROC_USM_FRONT_PROGRAM-USS-ADDRESSES to program front ultra sonic sensors after replacement.
2. **Program Rear USS:** Runs ODIN routine PROC_USM_REAR_PROGRAM-USS-ADDRESSES to program rear ultra sonic sensors after replacement.

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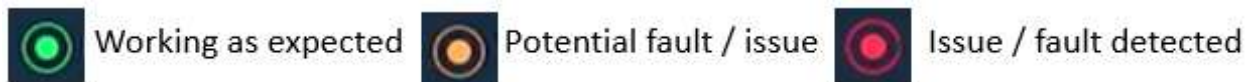
Infotainment Connectivity



1. **Wi-Fi:** Wi-Fi status
2. **Tesla Connection:** Connection type in use
3. **Cell:** Cell connectivity vitals
4. **Modem:** Modem vitals
5. **Test Modem:** Runs ODIN routine PING-BASH_MODEM_HEALTH_CHECK to test the modem health.
6. **Test LTE Antenna:** Runs ODIN routine PING-BASH_ANT to test LTE antennas connection.

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Software



1. **Infotainment:** Statuses for the Infotainment updaters
2. **Autopilot:** Statuses for the Autopilot updaters
3. **Maps:** Statuses for the Maps updaters
4. **Software Reinstall:** See [Software Reinstall](#).
5. **ECU Update Status:** See [ECU Update Status](#).

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ECU Update Status

This panel shows last software job information and displays the result of the CAN ECU updates from the last installed job. This is useful for checking what components may have failed an update and why.

1 Last FW Job: Succeeded
2024.2.7 d522c4493717

2 Succeeded ECUs - (2)

- GTW3 - Vehicle Gateway
- HVBMS - High Voltage Battery Management System

3 Version Matched ECUs - (58)

- BLEEPCENTER - Bluetooth Low Energy End Point Center
- BLEEPLEFT - Bluetooth Low Energy End Point Left
- BLEEPREAR - Bluetooth Low Energy End Point Rear
- BLEEPRIGHT - Bluetooth Low Energy End Point Right
- CBC - Cabin Blower Controller
- CMPS - Heat Pump System Compressor
- CP - Charge Port
- CPPLCFW - Charge Port Plc Modem
- CPPLCPIB - Charge Port Plc Modem Configuration Data
- DIR - Rear Drive Inverter
- EPAS3P - Primary Electronic Power Assisted Steering
- EPBL - Left Electronic Park Brake
- EPBLBL - Left Electronic Park Brake Bootloader
- EPBLBU - Left Electronic Park Brake Bootloader Updater
- EPBR - Right Electronic Park Brake
- EPBRBL - Right Electronic Park Brake Bootloader
- EPBRBU - Right Electronic Park Brake Bootloader Updater
- ESP - Electronic Stability Program
- ESPCAL - Electronic Stability Program Calibration

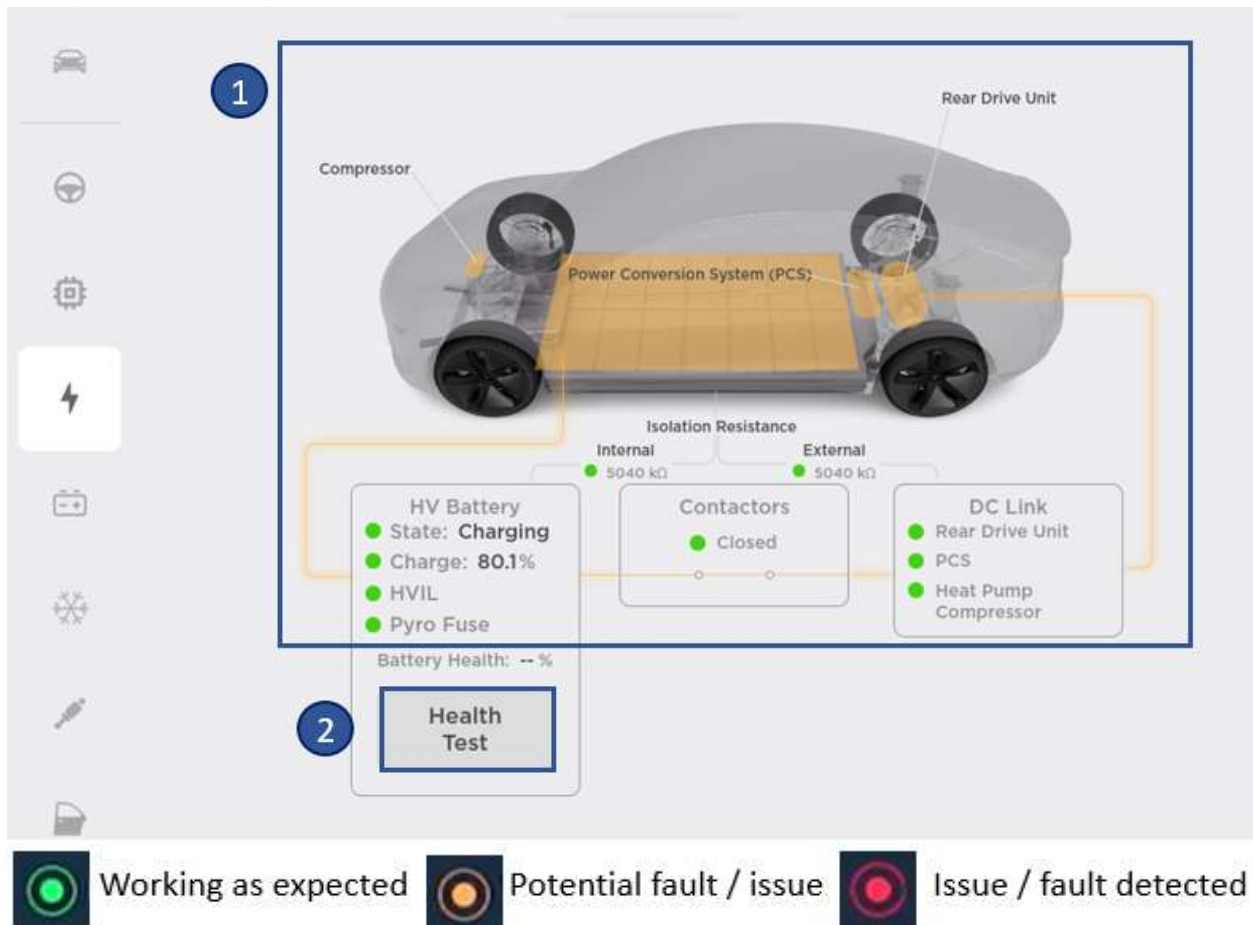
Working as expected Potential fault / issue Issue / fault detected

1. General state of the software update
2. **Succeeded ECUs:** Lists ECUs that successfully updated.
3. **Version Matched ECUs:** Lists ECUs where their software version is up to date.

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High Voltage

High Voltage System



1. Overview of high voltage system component states.

2. **Health Test:** See [System Health Test](#).

NOTE

In Service Mode Plus, there is an additional **Open Contactors** button which runs ODIN routine PROC_VCFRONT_X_POWER-CONTACTORS_OPEN to force open the HV battery contactors.

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System Health Test

Runs ODIN routine PROC_HVBMS_X_STATE-OF-HEALTH-TEST-START-OR-RESULTS. This routine starts a HV battery state of health (SOH) test or returns the last requested SOH test.

The HV battery health test is a test returning the HV battery SOH, which determines the percentage of health compared to when the HV battery was new.

Start New SOH Test or Get Results of Last Requested SOH Test

PROC_HVBMS_X_STATE-OF-HEALTH-TEST-START-OR-RESULTS



Pumps, Fans, and Drive Unit(s) may start making noise to produce/reject heat during the discharge phase of the routine.

This routine either starts a new HV Battery State of Health (SOH) test or returns detailed results of the last requested SOH test.

Important Notes Before Starting a New SOH Test:

- Ensure the vehicle is plugged into a ≥ 6 kW AC charger and SOC Max is $< 50\%$
- Ensure Summon, Sentry Mode, Cabin Overheat Protection, and Automatic Preconditioning are disabled
- The test will take up to 24 hours
- Do not interact with the vehicle or the test may abort

If the SOH test is seemingly completed, but the "Battery Health: ###" and the "Last Measured ## days ago" values have not changed, this may mean that the test was interrupted. In this case, run this routine with the RESULTS option to obtain the end state of the last requested SOH test.

See Toolbox Article 6384000 for more specific details.

SOH Test Selection

Select either to START a new SOH test or get RESULTS of the last requested SOH test.

START



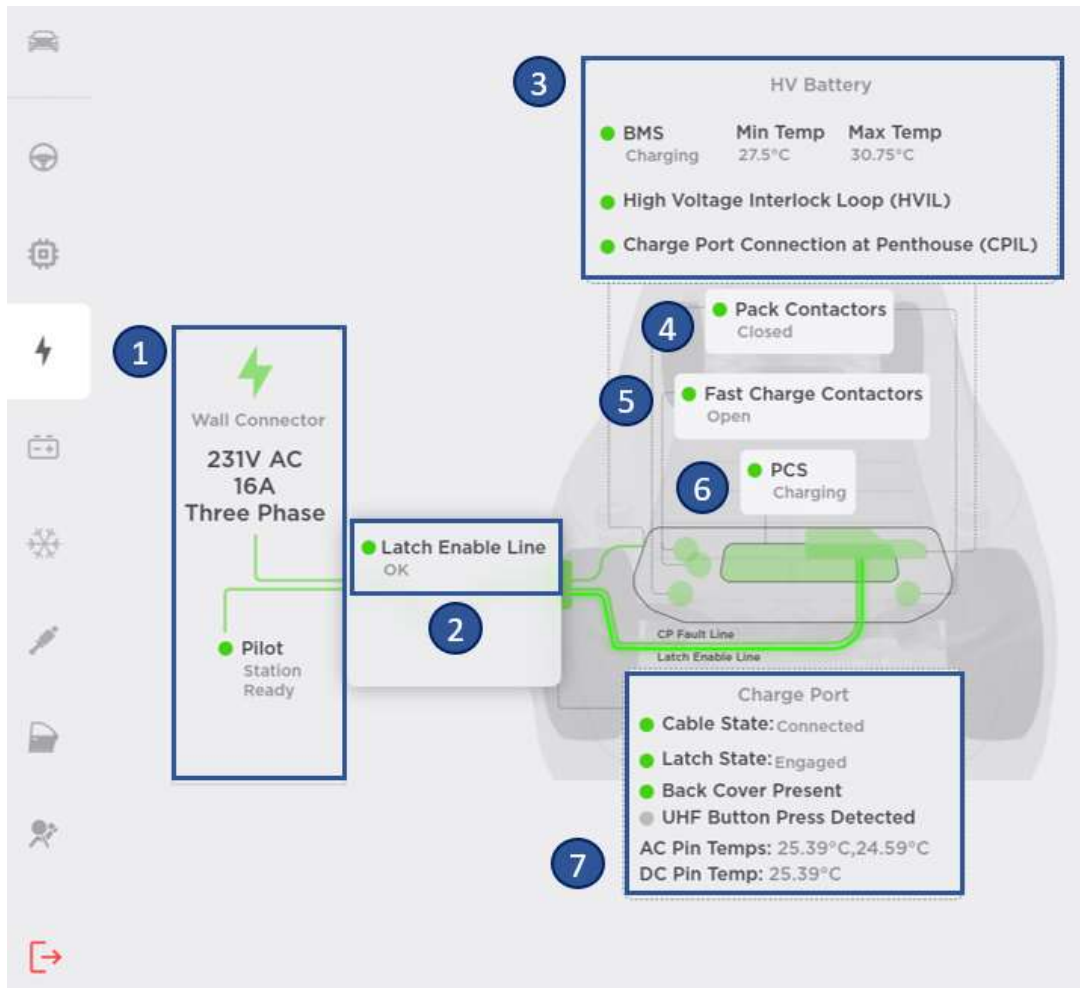
Close

▶ Run

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Charging

Model 3 & Model Y Charging



Working as expected



Potential fault / issue



Issue / fault detected

1. Charging source vitals
2. Latch state
3. HV battery vitals
4. Pack contactors state
5. Fast charge contactors state
6. PCS state
7. Charge port vitals

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Model S (2012-2020) & Model X (2015-2020) Charging

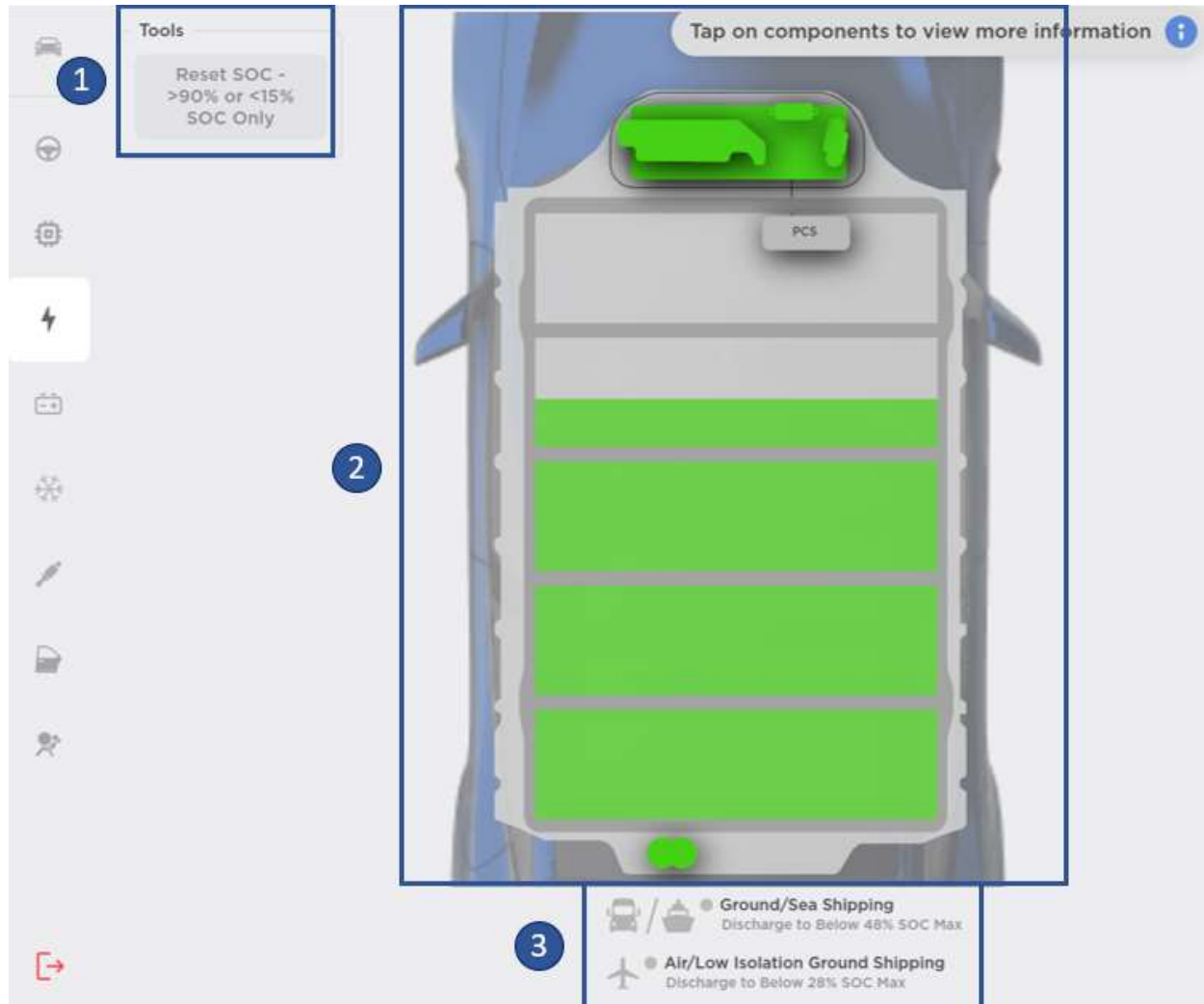
Runs ODIN routine PROC_CP_X_PLC-RELAY-RETROFIT to perform a CCS retrofit.

Only run this action when performing a CCS retrofit and when the CCS communication hardware is physically installed on the vehicle. An incorrect configuration may cause inability to charge.



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HV Battery

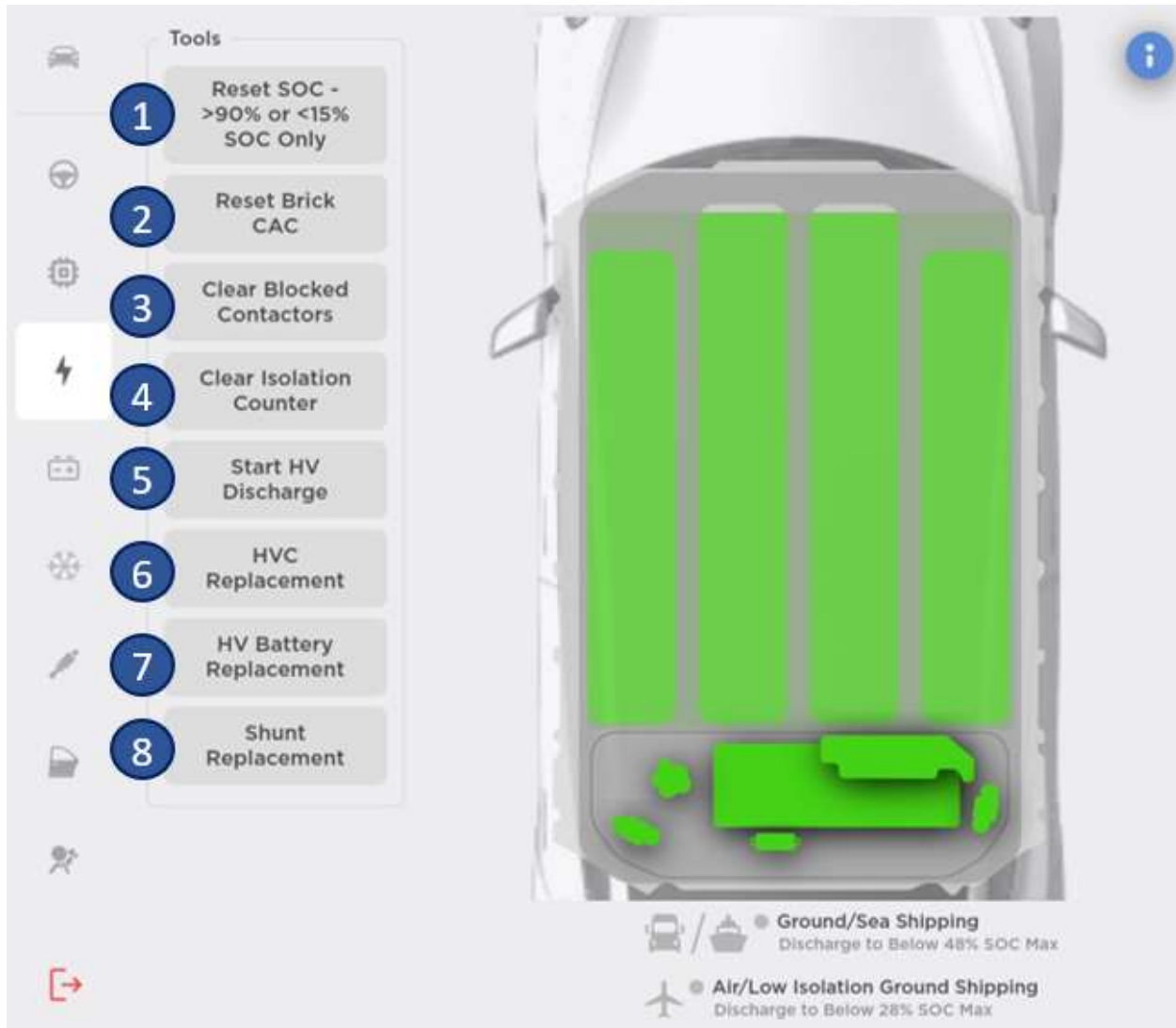


1. Runs ODIN routine PROC_HVBMS_X_RESET-SOC to reset the SOC (state of charge).
This routine can reset the calculated SOC based solely on the open circuit brick voltage.
2. HV battery and HV battery ancillary tray vitals + service actions. Tap on a component to view more information.
3. Confirmation of transport following SOC.

Clicking on a component will display more information.

The HV Battery panel in Service Mode Plus has additional features:

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⚠ Warning

All the routines listed below must be used according to a Service Manual procedure. Do not run the routine unless specifically instructed to do so as part of a procedure.

1. Runs ODIN routine PROC_HVBMS_X_RESET-SOC to reset the State of Charge (SOC).
2. Runs ODIN routine PROC_HVBMS_X_RESET-BRICK-CAC to reset Brick CAC.

This routine resets all HV battery brick calculated amp-hour capacities (CACs) to the nominal / default values.

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3. Runs ODIN routine PROC_HVBMS_X_CLEAR-BLOCKED-CONTACTORS to Clear blocked contactors alerts.
4. Runs ODIN routine PROC_HVC_X_CLEAR-ISOLATION-CONDITION to clear isolation counter alerts.
5. Runs ODIN routine PROC_VCFRONT_X_HV-DISCHARGE-START to start HV battery discharge.
6. Action HVC replacement:
 - Before HVC replacement: Runs ODIN routine PROC_HVC_X_ECU-REPLACEMENT-BACKUP to back up the old HVC.
 - After HVC replacement: Runs ODIN routine PROC_HVC_X_ECU-REPLACEMENT-RESTORE to restore the new HVC.
7. Action HV battery replacement: Runs ODIN routine PROC_HVC_X_PACK-REPLACEMENT to execute a sequence of actions needed to be taken following a HV battery replacement.
8. Action shunt replacement: Runs ODIN routine PROC_HVP_X_WRITE-SHUNT-BAR-RES to write the new shunt bar resistance.

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High Voltage Controller



1. Runs ODIN routine PING-TP_HVBMS to test if the HVBMS is communicating.
2. Runs ODIN routine PING-TP_HVP to test if the HVP is communicating.
3. Runs ODIN routine TEST-RESET_HVBMS to reset the HVBMS.
4. Runs ODIN routine TEST-RESET_HVP to reset the HVP.
5. Runs ODIN routine TEST-SELF_HVP_X_LV-POWER to determine sufficient low voltage power input and contactor power input from the right vehicle controller (VCRIGHT).
6. Runs ODIN routine TEST-SELF_HVP_X_PCS-INTERFACE to determine the circuit integrity of PCS-ENABLE-L, PWM-ENABLE-DCDC, and PWM-ENABLE-CHG lines that are being sent from the High Voltage Processor (HVP) to the Power Conversion System (PCS).

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High Voltage Interlock Loop

This panel shows an overview of the High Voltage Interlock Loop (HVIL) circuit.



HVIL circuit overview

1. Runs ODIN routine PROC_HVP_X_FORCE-HVIL-ON to force HVIL on.
This routine will force the HVP HVIL current source for the specified duration.

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Procedures

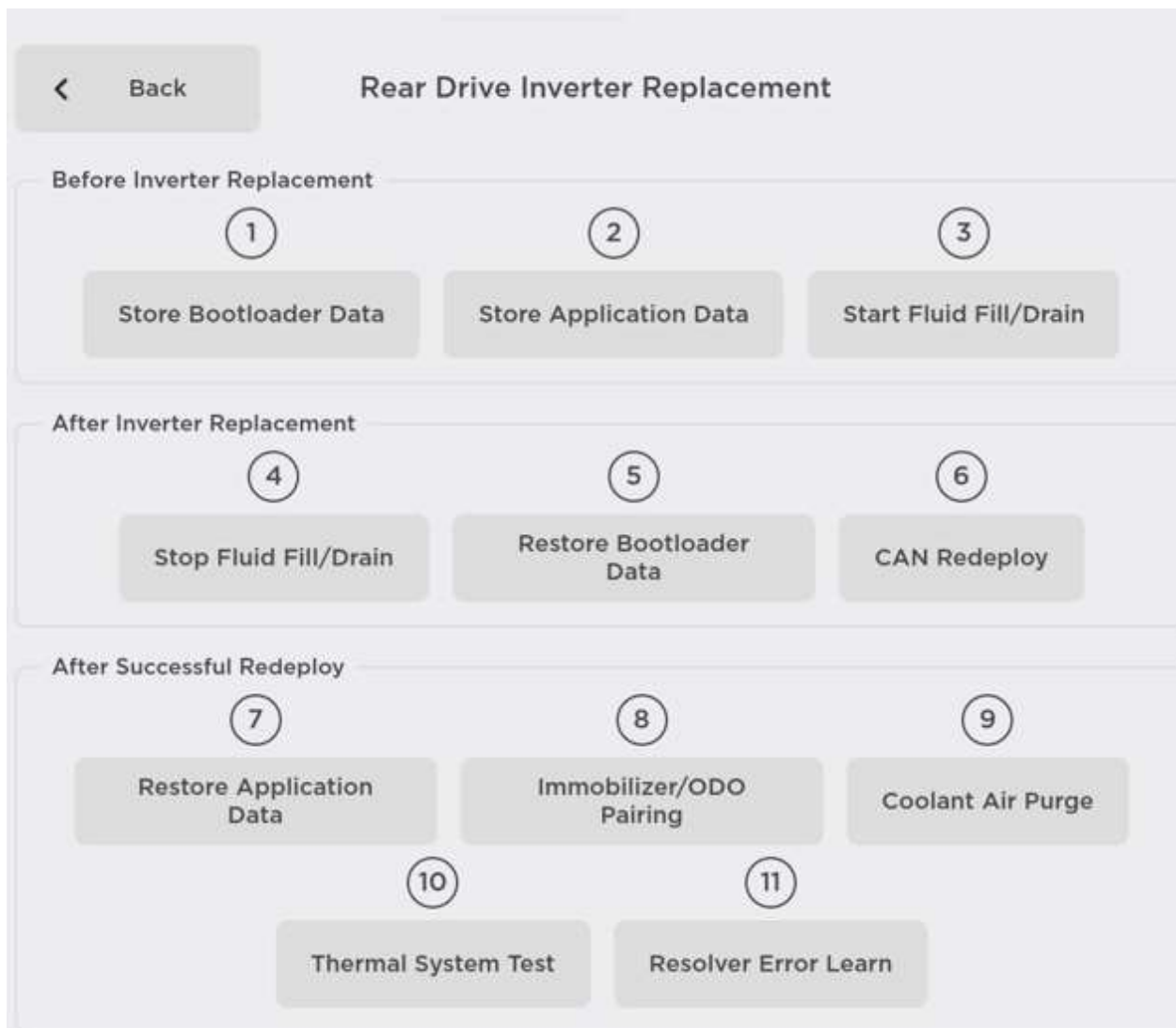


1. **High Voltage Battery Replacement:** Runs ODIN routine PROC_HVC_X_PACK-REPLACEMENT to execute a sequence of actions needed to be taken following a HV battery replacement.
2. **High Voltage Controller (HVC) Replacement:**
 - Before HVC replacement: Runs ODIN routine PROC_HVC_X_ECU-REPLACEMENT-BACKUP to back up the previous HVC.
 - After HVC replacement: Runs ODIN routine PROC_HVC_X_ECU-REPLACEMENT-RESTORE to restore the new HVC.
3. **Shunt Replacement:** Runs ODIN routine PROC_HVP_X_WRITE-SHUNT-BAR-RES to write the new shunt bar resistance.
4. Action rear drive inverter replacement:

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Drive Inverter Replacement Procedure

List of all actions needed to perform a rear drive inverter replacement.

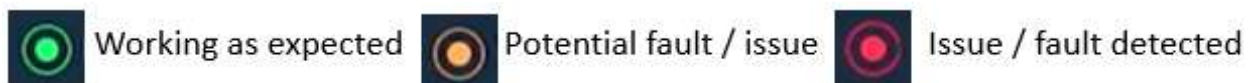
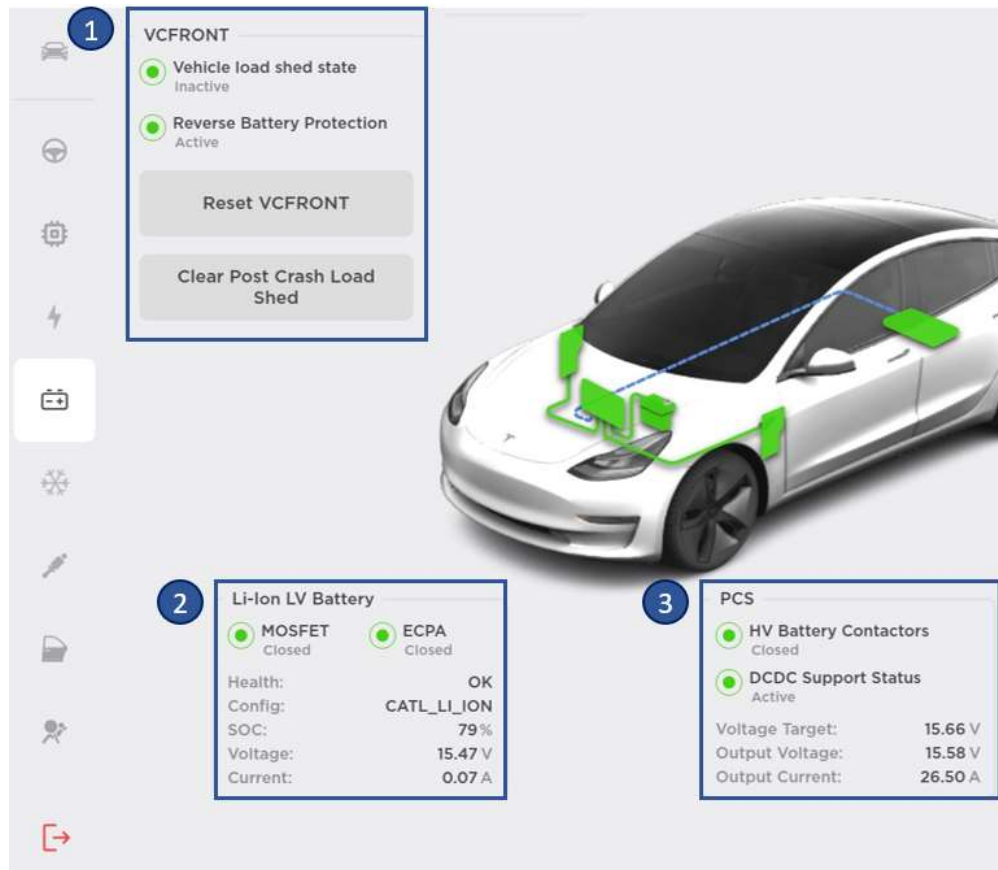


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Low Voltage

Power Distribution

Model 3 & Model Y Lithium-ion Low Voltage Batteries



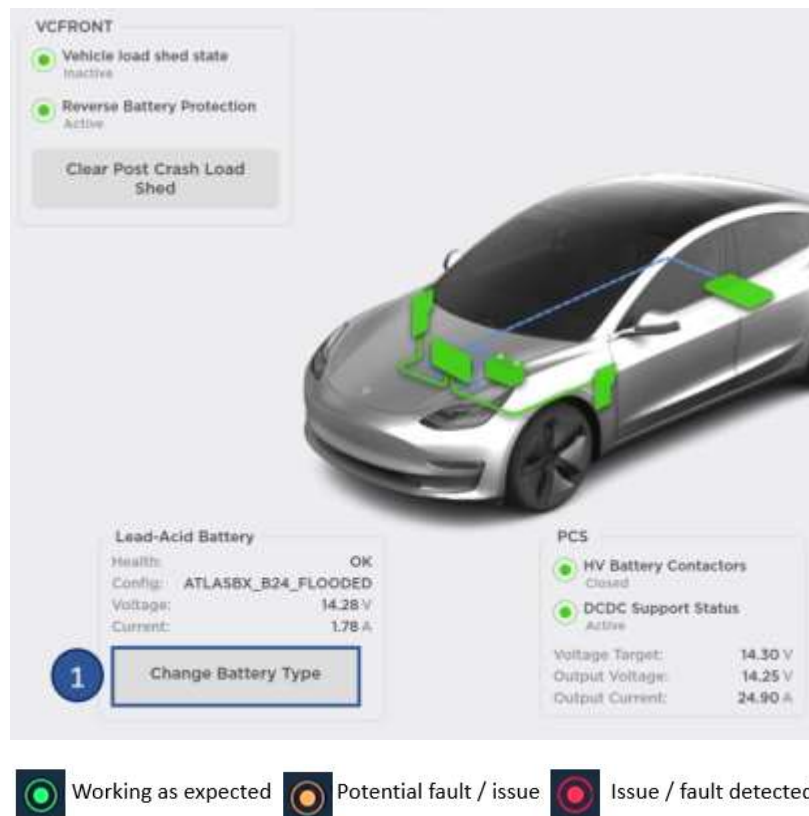
1. **Reset VCFRONT:** Runs ODIN routine TEST-RESET_VCFRONT to reset the VC front.
2. **Clear Post Crash Load Shed:** Runs ODIN routine PROC_VCFRONT_X_CLEAR-POST-CRASH-LOADSHEDDING to clear post-crash loadshedding after a collision.
3. Low Voltage battery vitals.
4. Power conversion system (PCS) vitals.

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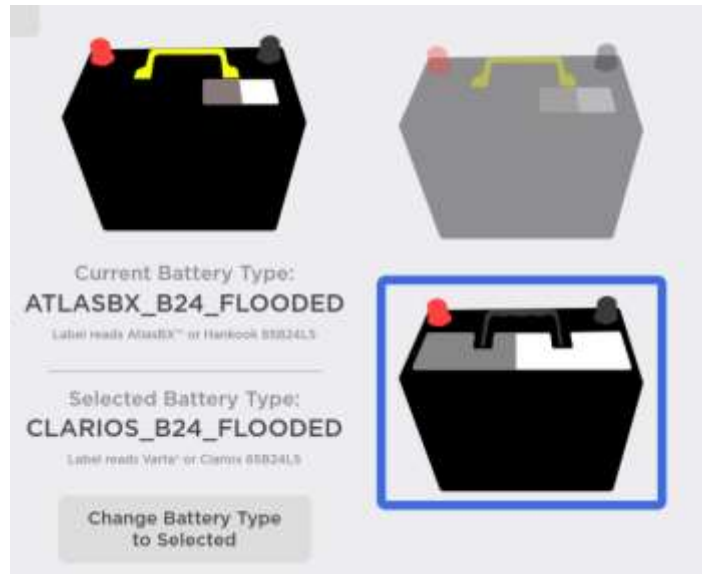
When clicking on each element, the user can view their vitals and perform actions for that ECU. For instance, when clicking on the VCRIGHT, the user can run an action to reset it.

Model 3 & Model Y Lead Acid Low Voltage Batteries

Vehicles equipped with lead acid Low Voltage (LV) batteries use the same panel as vehicles equipped with lithium-ion LV batteries, except that users can change the battery type on this panel.

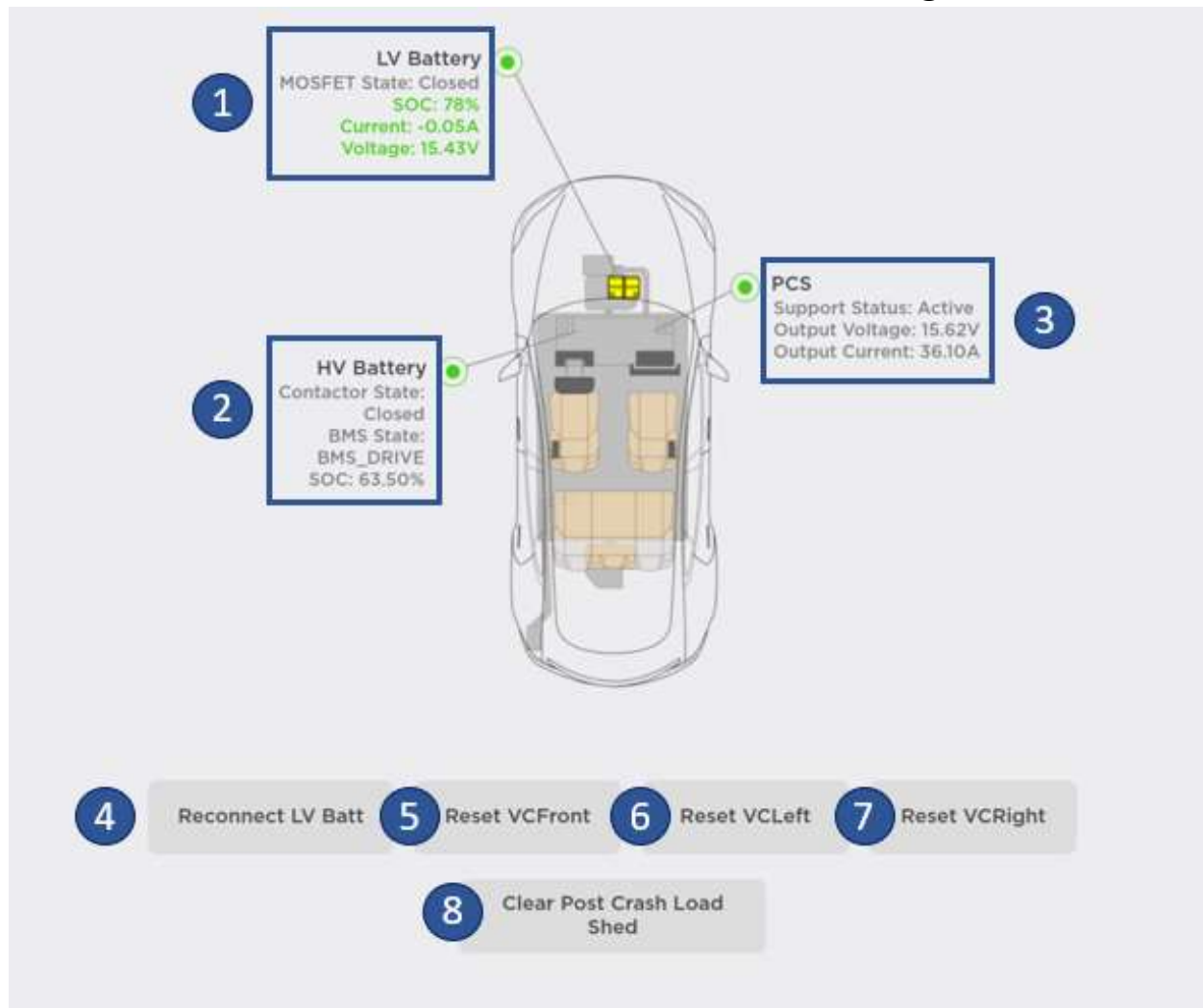


Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.



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Model S (2021+) & Model X (2021+) Low Voltage Batteries

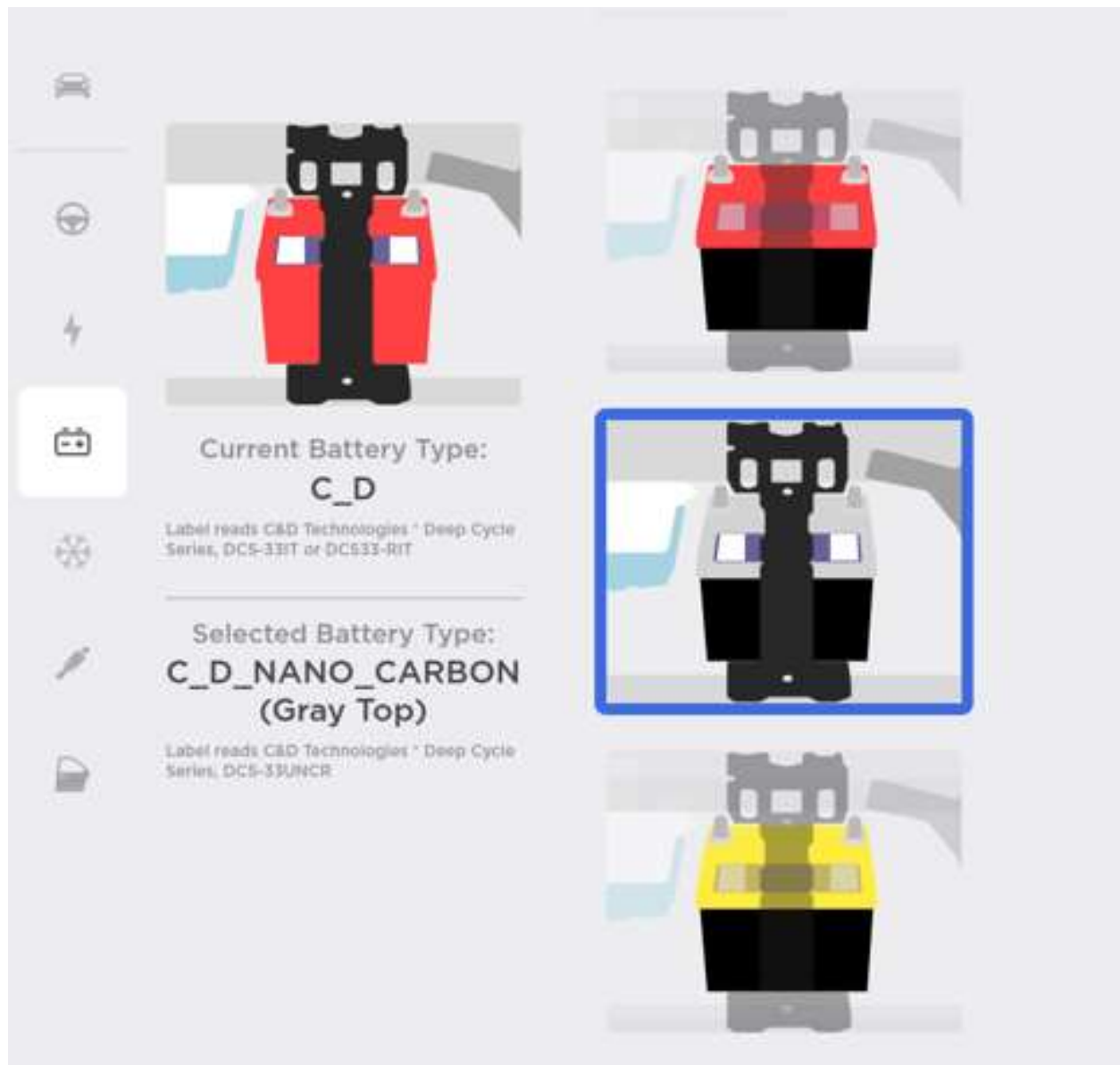


1. LV battery vitals
2. HV battery vitals
3. PCS vitals
4. Runs ODIN routine PROC_VCBATT_X_RECONNECT-LV-BATTERY to reconnect the low voltage battery.
5. Runs ODIN routine TEST-RESET_VCFRONT to reset the VC front.
6. Runs ODIN routine TEST-RESET_VCLEFT to reset the VC left.

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7. Runs ODIN routine TEST-RESET_VCRIGHT to reset the VC right.
8. Runs ODIN routine PROC_VCFRONT_X_CLEAR-POST-CRASH-LOADSHEDDING to clear post-crash load shed alert.
 - Vehicle controller is loadshedding due to a vehicle collision. Make sure the vehicle is safe to re-energize before using the Clear Post-Crash Loadshedding routine to resume all low voltage electrical system features and enable high voltage system again.

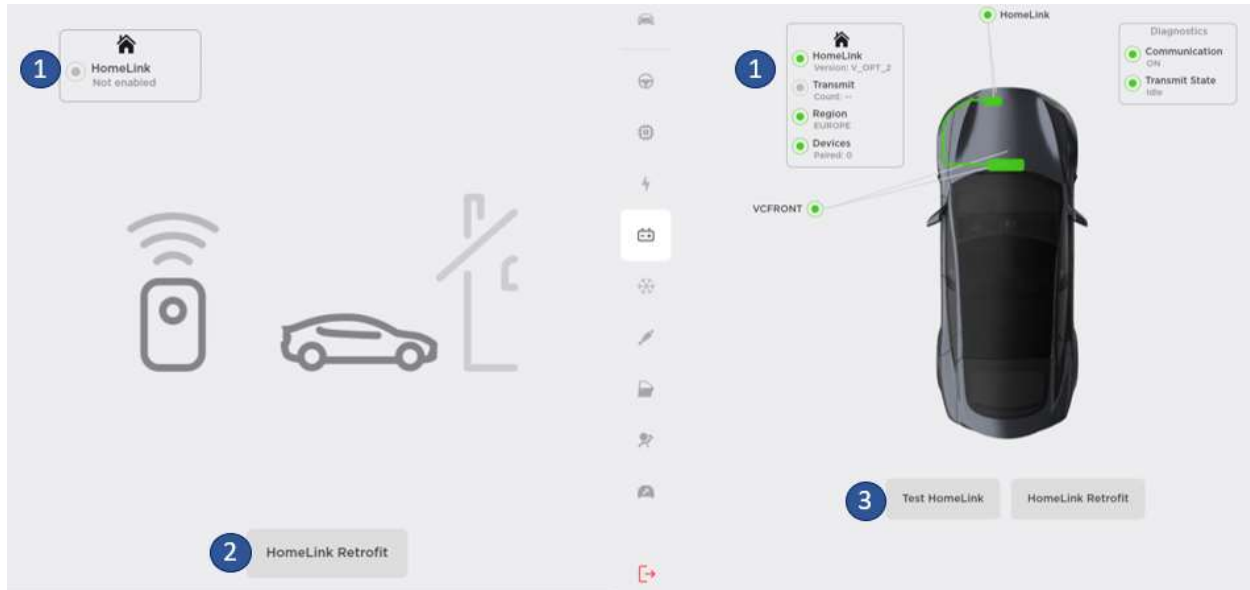
Model S (2021+) & Model X (2021+) also have a panel for changing the battery configuration.



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HomeLink

The HomeLink panel has different displays depending on whether HomeLink is enabled (right side) or not enabled (left side).



1. HomeLink state
2. Runs ODIN routine PROC_VCFRONT_X_HOMELINK-RETROFIT to perform HomeLink retrofit.
 - Only run this routine when performing a HomeLink retrofit and when the module is physically installed on the vehicle.
3. Runs ODIN routine TEST-SELF_VCFRONT_X_HOMELINK to test HomeLink. This action performs a self-test to check LIN connections to the HomeLink ECU.

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Seats

This panel is only available on Model S (2012-2020) & Model X (2015-2020).



This panel allow the user to calibrate driver and passenger seats:

1. PROC_MSMD_VCSEATD-FRONT-DRV_CALIBRATE-MEMORY-SEAT
2. PROC_MSMP_VCSEATP-FRONT-PAS_CALIBRATE-MEMORY-SEAT

This action should be used after a seat replacement.

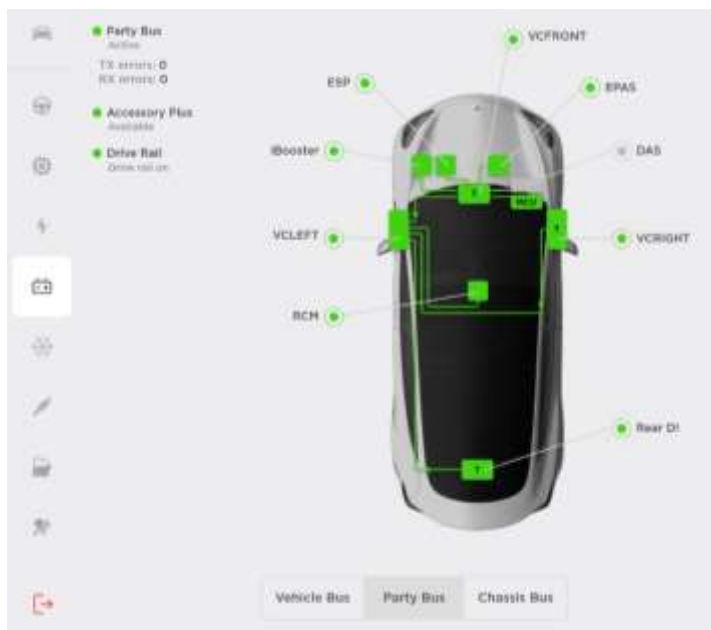
Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Controller Area Network

This panel is only available in Service Mode Plus. This panel gives users an overview of the different Controller Area Network (CAN) circuits.



Working as expected Potential fault / issue Issue / fault detected



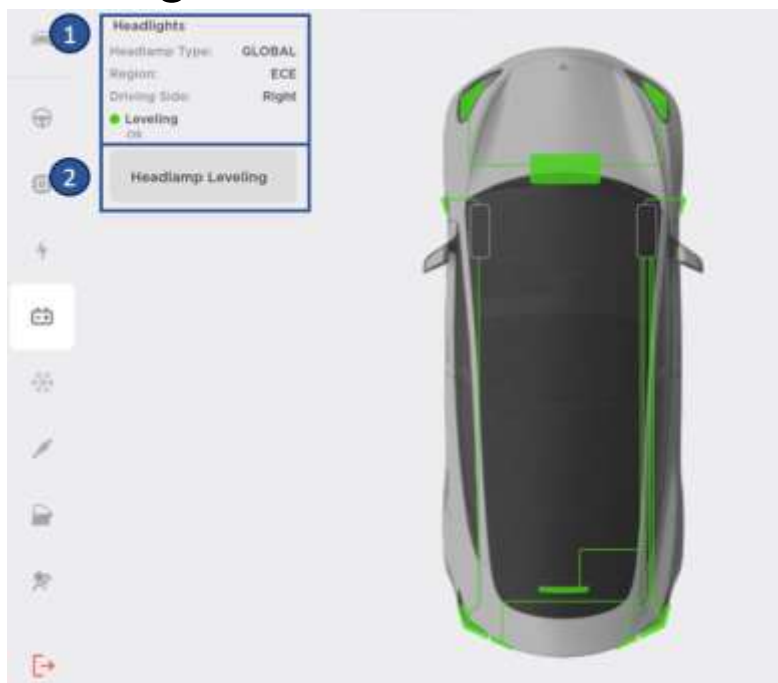
Working as expected Potential fault / issue Issue / fault detected

Service Mode panels can differ from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.



● Working as expected
 ● Potential fault / issue
 ● Issue / fault detected

Headlights



● Working as expected
 ● Potential fault / issue
 ● Issue / fault detected

1. Headlight vitals

2. Access to headlights leveling panel. See [Headlamp Leveling](#).

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Headlamp Leveling



Working as expected



Potential fault / issue

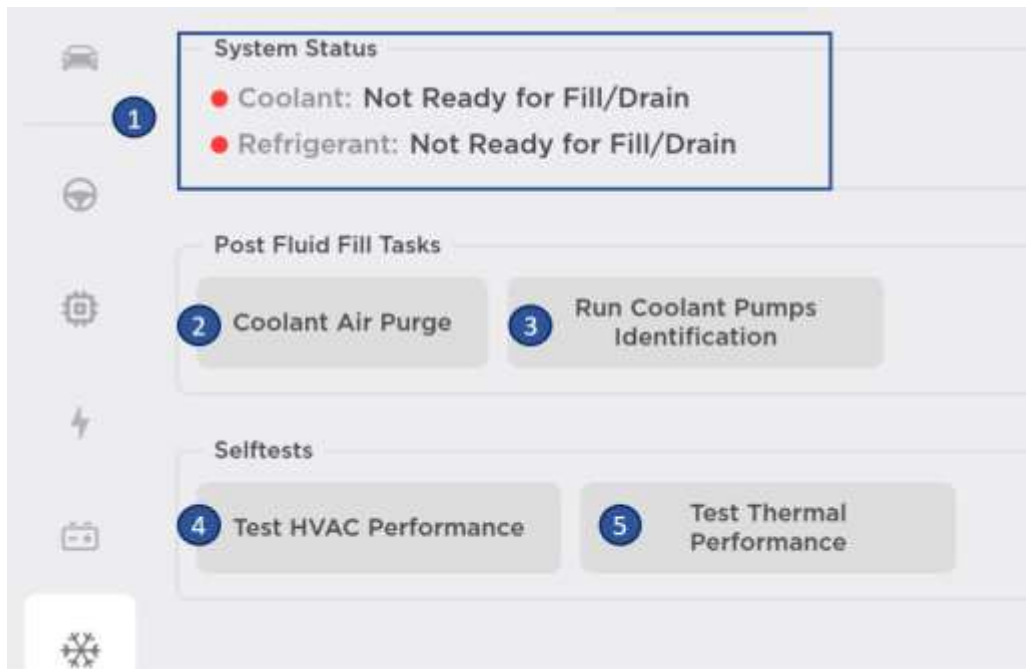


Issue / fault detected

1. Aiming information.
2. Vehicle Pitch Sensor information.
3. Runs ODIN routine PROC_VCFRONT_X_WRITE-HEADLIGHT-AIM-CALIBRATED-VALUES to write headlight aim calibrated values into VCFRONT.
4. Runs ODIN routine PROC_VCFRONT_X_TRIGGER-LIVE-AX-HEADLIGHT-LEVELING to force trigger headlight leveling.

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Thermal Actions



1. System status
2. Runs ODIN routine TEST_VCFRONT_X_THERMAL-COOLANT-AIR-PURGE to run coolant air purge.
This action runs HVAC pumps at maximum speed, changing valve positions.
3. Runs ODIN routine TEST-SELF_VCFRONT_X_COOLANT-PUMPS-IDENTIFICATION to run coolant pumps identification after coolant pump replacement.
4. Runs ODIN routine TEST-SELF_VCRIGHT_X_HVAC-PERFORMANCE to run HVAC performance test
This action tests the cabin HVAC operation and returns pass or fail.
5. Runs ODIN routine TEST-SELF_VCFRONT_X_THERMAL-PERFORMANCE to run thermal performance test.
This action tests the vehicle thermal system performance, including both powertrain and cabin HVAC heating and cooling with pass or fail result.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Refrigerant System

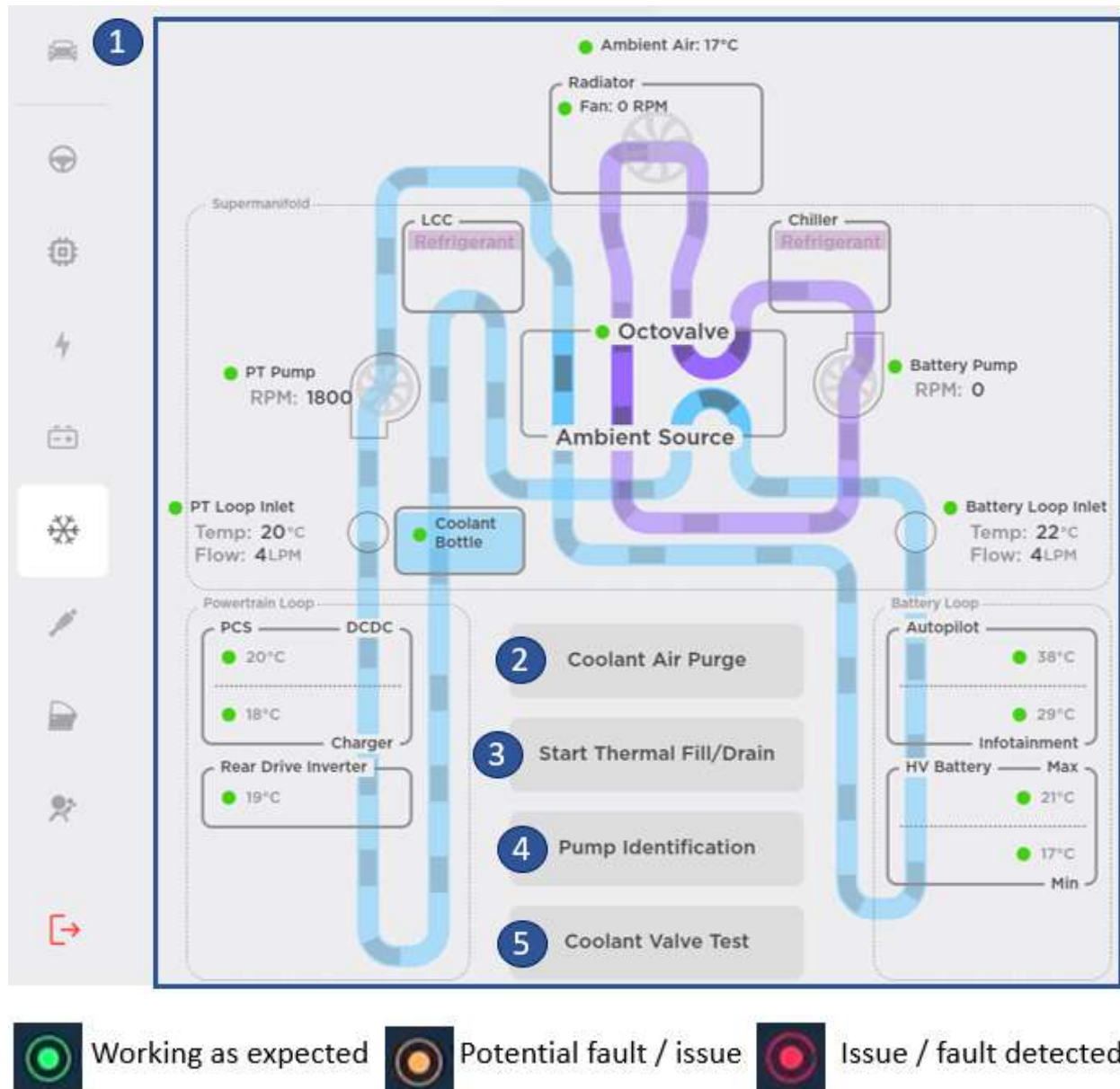


1. Overview of refrigerant system vitals
2. Runs ODIN routine PROC_VCFRONT_X_START-THERMAL-FILL-DRAIN to start thermal fill / drain.
3. Runs ODIN routine PROC_VCFRONT_X_START-THERMAL-FILL-DRAIN-REFRIGERANT to start refrigerant fill / drain only.
4. Runs ODIN routine PROC_VCFRONT_X_STOP-THERMAL-FILL-DRAIN to stop thermal fill / drain.

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5. Runs ODIN routine TEST-SELF_VCFRONT_X_HEAT-PUMP-COMMISSIONING to run heat pump commissioning.
Start the heat pump thermal system commissioning (only if the routine complete successfully).
6. Runs ODIN routine PROC_VCFRONT_X_RESET-COMPRESSOR-P-METRIC to reset compressor P-Metric.
Only use this routine after AC compressor replacement.

Coolant System



Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

1. Overview of coolant system vitals.
2. Runs ODIN routine TEST_VCFRONT_X_THERMAL-COOLANT-AIR-PURGE to run coolant air purge.
3. Runs ODIN routine PROC_VCFRONT_X_START-THERMAL-FILL-DRAIN to start thermal fill / drain.
4. Runs ODIN routine TEST-SELF_VCFRONT_X_COOLANT-PUMPS-IDENTIFICATION to run the coolant pump identification.
The pole pair configuration of the coolant pump is a critical parameter that software uses to command the pumps and interpret feedback signals correctly.
5. Runs ODIN routine TEST-SELF_VCFRONT_X_FIVE-WAY-VALVE to run a coolant valve test.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Heating, Ventilation and Air Conditioning (HVAC)

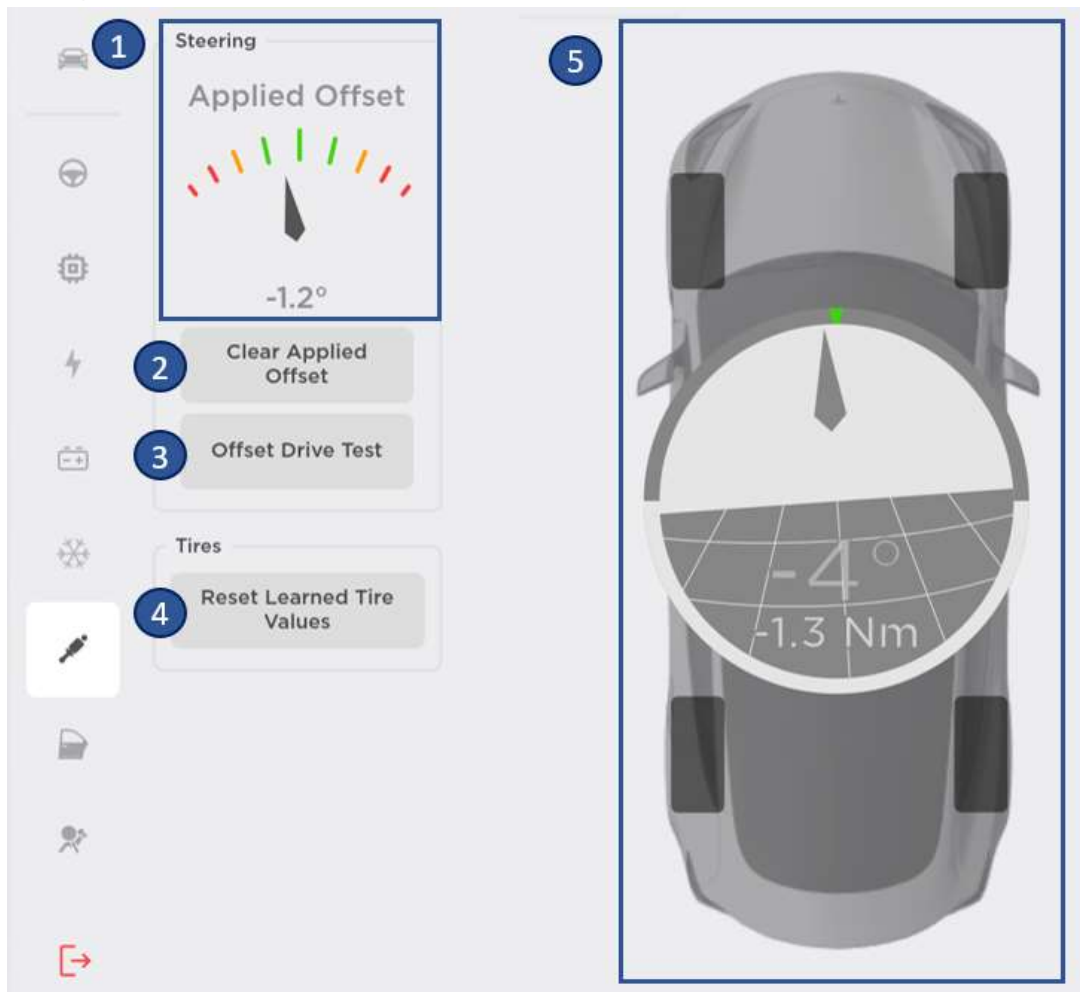
This panel has three different views of the HVAC system – the left ride, the right ride, and a top overview.



Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Chassis

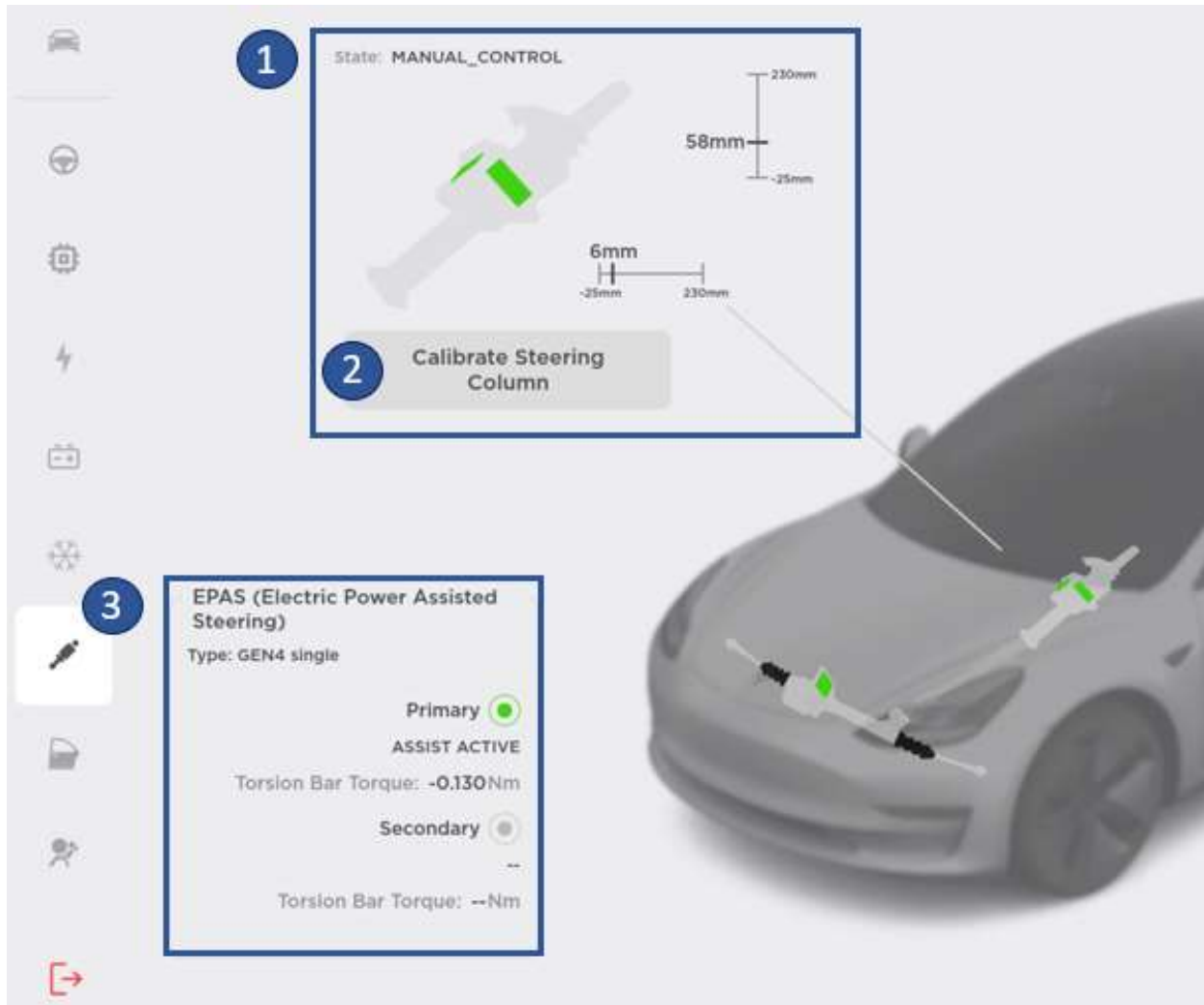
Alignment and Tires



1. Actual applied offset.
2. Runs ODIN routine PROC_EPAS_ESP_CLEAR-ANGLE-OFFSETS to clear applied offset.
3. Runs ODIN routine TEST-SELF_EPAS_X_STEERING-CENTER-OFFSET-SERVICE to perform an offset test drive.
Purpose of this action is to check if alignment has been disturbed significantly after a suspension repair.
4. Runs ODIN routine PROC_VCSEC_X_TPMS-ERASE-AND-AUTOLEARN to reset estimates after tire rotation or replacement.
5. Live steering wheel angle + force applied on the steering wheel.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Steering



Working as expected



Potential fault / issue



Issue / fault detected

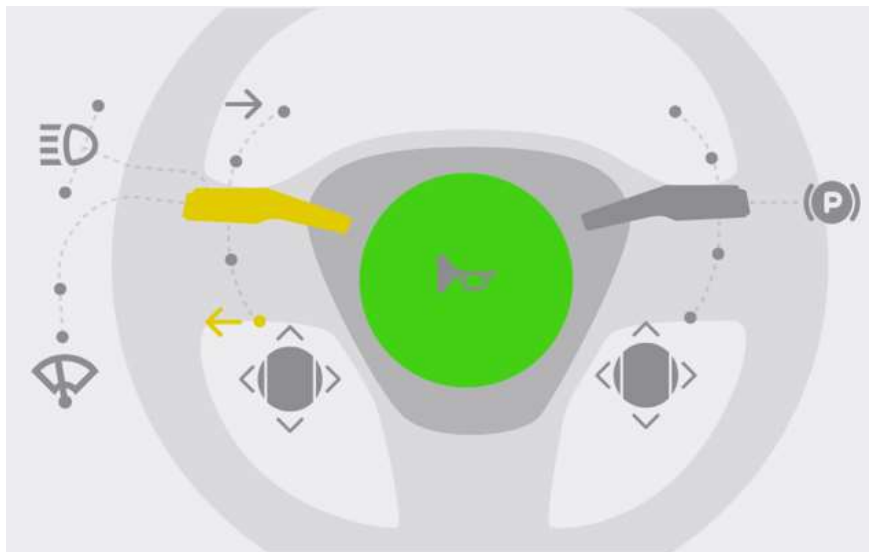
1. Steering column vitals.
2. Runs ODIN routine PROC_STEERING_COLUMN_CALIBRATION to calibrate the steering column.
3. Steering rack vitals.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Steering Column Control Module (SCCM)

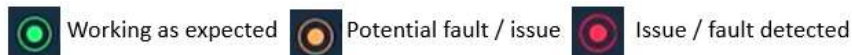
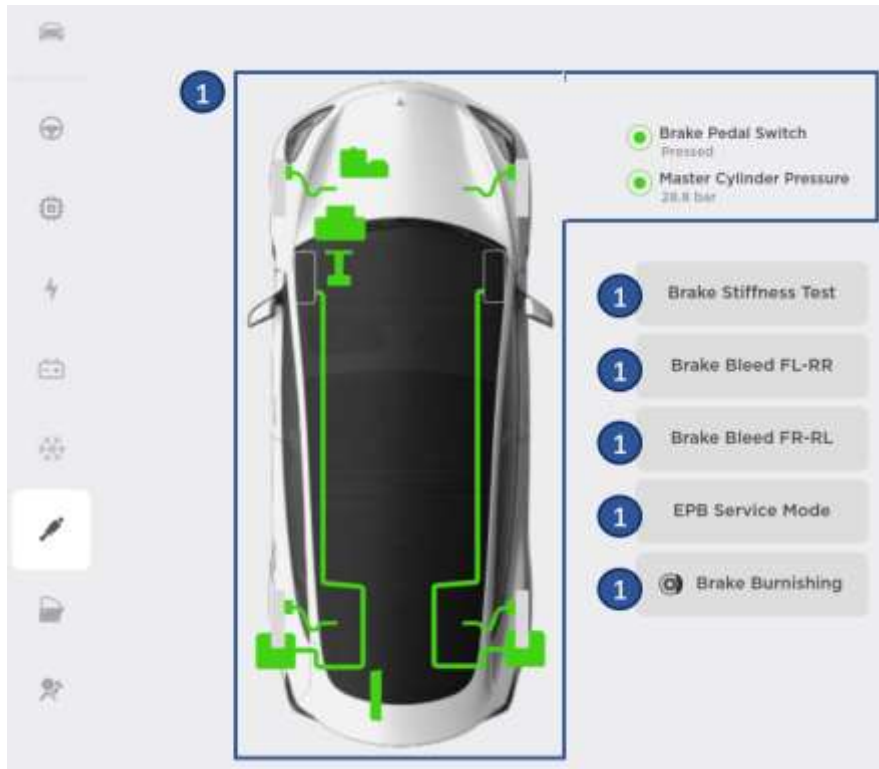
This panel allows the user to check each function / button related to the SCCM. For instance, when pushing the park brake button, the « P » on the screen will become yellow.

This confirms the button is working properly.



Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Brakes



1. General overview of braking system.
2. Runs ODIN routine TEST_BRAKE_X_STIFFNESS-TEST-SERVICE
Measure the brake system stiffness.
Can be used after an ABS regulator replacement for instance.
3. Runs ODIN routine PROC_ESP_FRONT-L-REAR-R-BRAKE-BLEED
The ESP hydraulic control unit will run the high pressure pump and control circuit valves to help a prescheduled brake fluid flush or bleed.
4. Runs ODIN routine PROC_ESP_FRONT-R-REAR-L-BRAKE-BLEED
The ESP hydraulic control unit will run the high pressure pump and control circuit valves to help a prescheduled brake fluid flush or bleed.
5. Runs ODIN routine PROC_EPB_X_SERVICE-MODE
Release both parking brakes to allow the user to remove rear calipers.
6. Action to perform brake pads burnishing. See [Brake Burnishing](#).

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Brake Burnishing

This panel guides the user through the brake burnishing process, with speed target (plays chimes), live pressure reading and cycle count.

Brake Burnishing

0

Pressure (bar)

0

Speed (km/h)

Instructions

In the guided process, the regenerative motor torque will be set to ZERO to help brake burnishing. You can watch the gauges above for live braking parameters.

1. If road conditions allow, increase speed to approx. 80 km/h (you will hear a chime).
2. Press brake pedal until displayed brake pressure is within the TARGET range (approx. 34 Bar).
3. Keep pressure constant until almost stopped (you will hear a chime).
4. Return to target speed and drive for approx. 25 seconds to allow brakes to cool (watch the cooldown progress bar).
5. Complete the procedure by repeating steps 1-4 another 9 times.

Start Guided Process

Disable Regen

Use when not following the guided process. Removes Speed Limit as well.

NOW: Accelerate to 74 km/h and wait for chime

26

TARGET

Pressure (bar)

0

TARGET

Speed (km/h)

0

10

Cycles

Cooldown (seconds)

Instructions

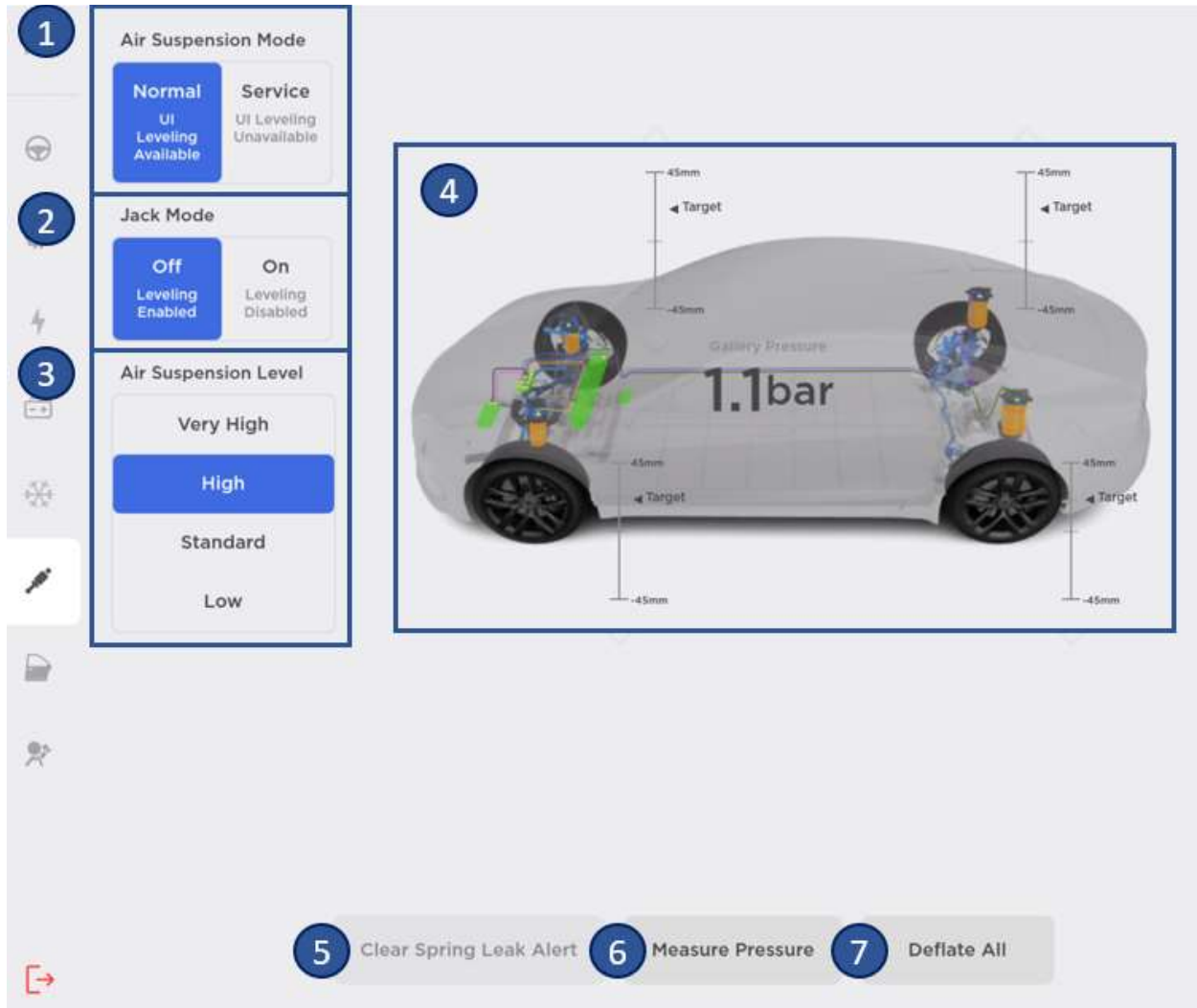
In the guided process, the regenerative motor torque will be set to ZERO to help brake burnishing. You can watch the gauges above for live braking parameters.

1. If road conditions allow, increase speed to approx. 80 km/h (you will hear a chime).
2. Press brake pedal until displayed brake pressure is within the TARGET range (approx. 34 Bar).
3. Keep pressure constant until almost stopped (you will hear a chime).
4. Return to target speed and drive for approx. 25 seconds to allow brakes to cool (watch the cooldown progress bar).
5. Complete the procedure by repeating steps 1-4 another 9 times.

Stop Guided Process

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Air Suspension

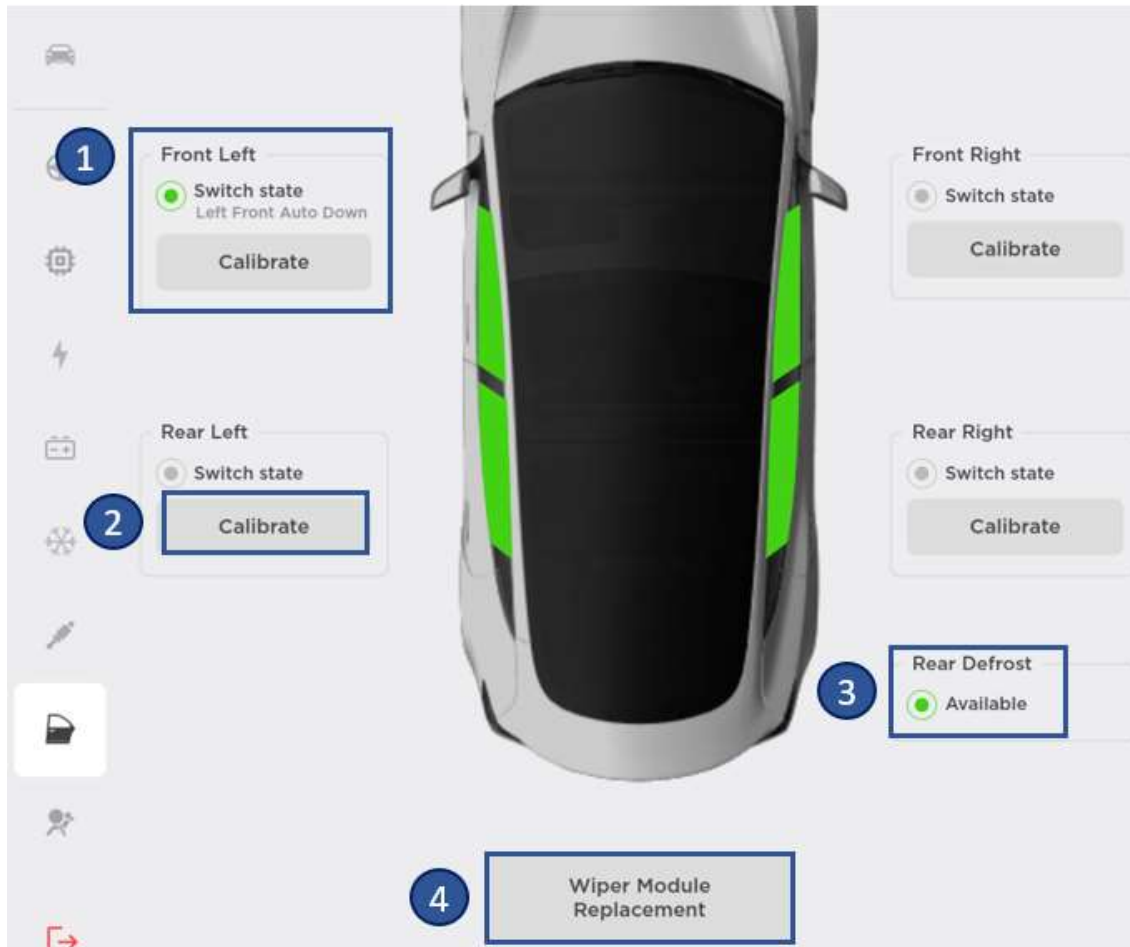


1. Air suspension mode
2. Jack mode
3. Air suspension level
4. Air suspension vitals
5. Runs ODIN routine PROC_TAS_X_CLEAR-SPRING-LEAK-ALERT to clear air spring leak alert.
6. Runs ODIN routine PROC_TAS_X_MEASURE-AIR-SUSPENSION-PRESSURE to measure air suspension pressure.
7. Runs ODIN routine PROC_TAS_X_DEFLATE to deflate all.

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Closures

Windows



1. Windows switch state
2. Runs ODIN routine TEST-SELF_VCLEFT_FRONT-L_CALIBRATE-WINDOW to calibrate windows.
During window calibration, window will roll up and down until the calibration is complete. Pinch detection is disabled during calibration

NOTE

Ensure doors are closed as brightwork can be damaged during the calibration process.

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3. Rear defrost state.

If Rear Defrost is disabled (if replacing rear glass for example), a button "Enable Rear Defrost" to trigger:

PROC_VCRIGHT_REAR_DEFROST-RE-ENABLE

4. Runs ODIN routine PROC_WIPER_X_POST-REPLACEMENT-PROCEDURES after wiper module replacement.

Door Handles

This panel is only available for 2012 –2020 Model S. Its primary purpose is to show the door handles' vitals and run ODIN routine PROC_VCLEFT_FRONT-L_CALIBRATE-DOOR-HANDLE to calibrate the door handles.

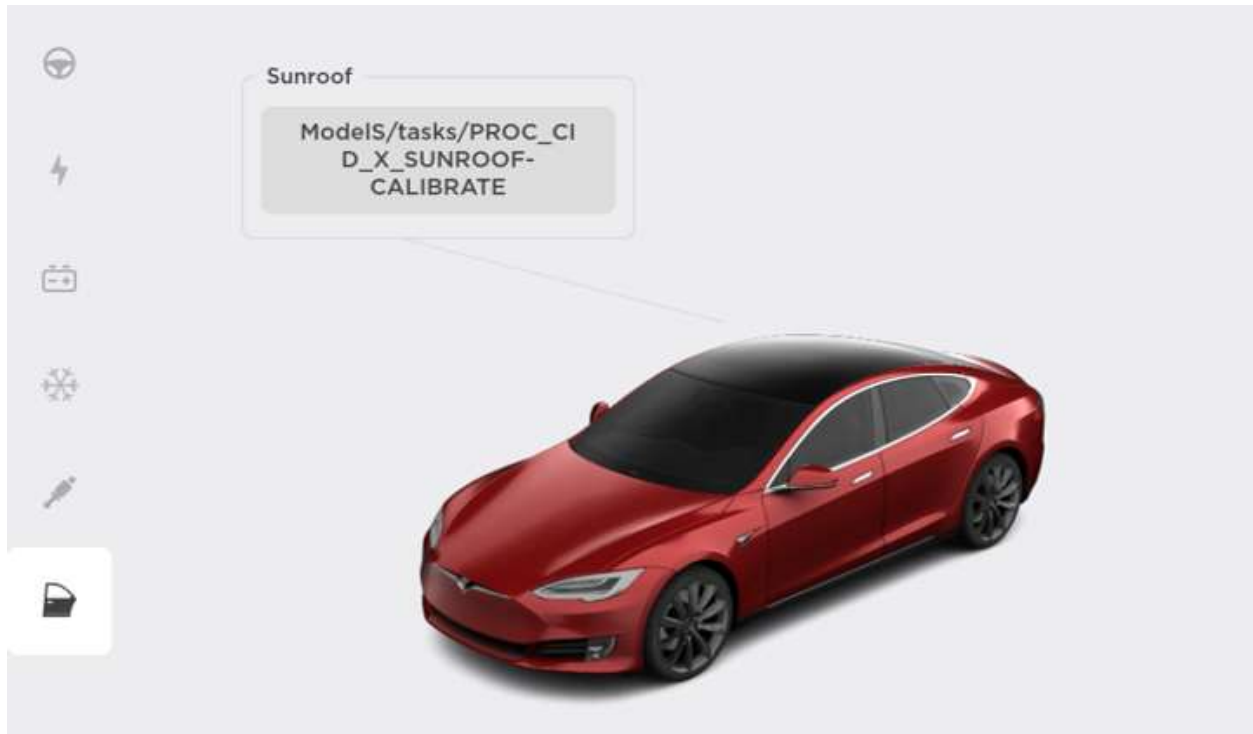


Tap on a component to view more information.

Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Sunroof

This panel is only available on Model S (2012-2020). Its primary purpose is to run ODIN routine PROC_CID_X_SUNROOF-CALIBRATE to calibrate the sunroof.



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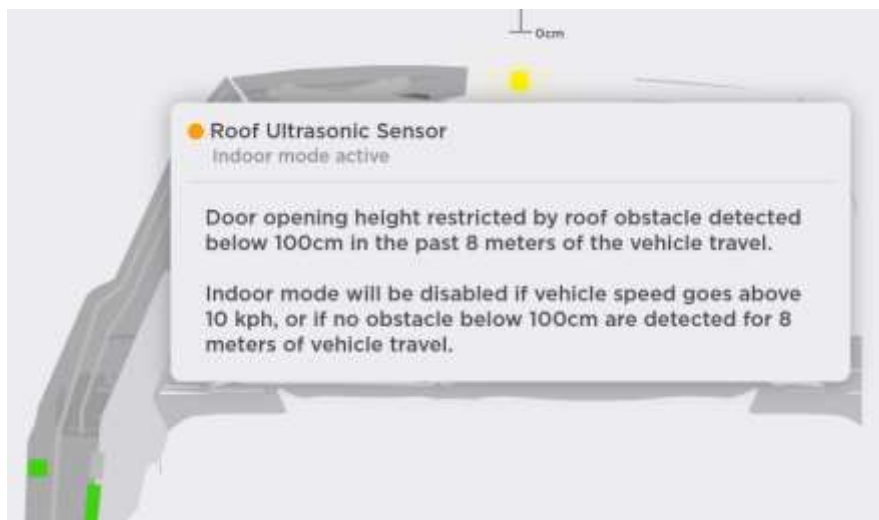
Falcon Doors

This panel is only available on Model X. Its primary purpose is to show Falcon Door and Ultrasonic Sensor (USS) vitals.



 Working as expected  Potential fault / issue  Issue / fault detected

Tap on a component to view more information.



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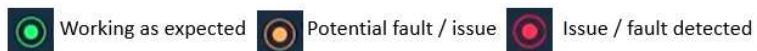
Safety and Restraints

Airbags

The Airbags panel allows the user to view the status of each airbag component.



Tap on a component to view more information.



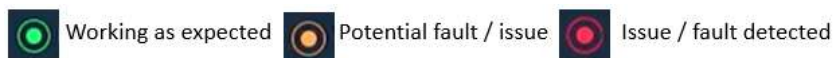
Service Mode panels can differentiate from this guide based on vehicle model, year, software version and hardware installed. This guide is based on Service Mode from software version 2024.2.7.

Seats

The Seats panel allows the user to view the status of each component in a seat.



Tap on a component to view more information.



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