

Last modified: 03/08/2023 14:23:22

Controller - High Voltage (Backup and Restore)

Correction code

Revision History:

- 2023-08-03: Removed Autodiag method.
- 2023-03-15: Added note to explain the automated restore process using the touchscreen.

HVC Backup

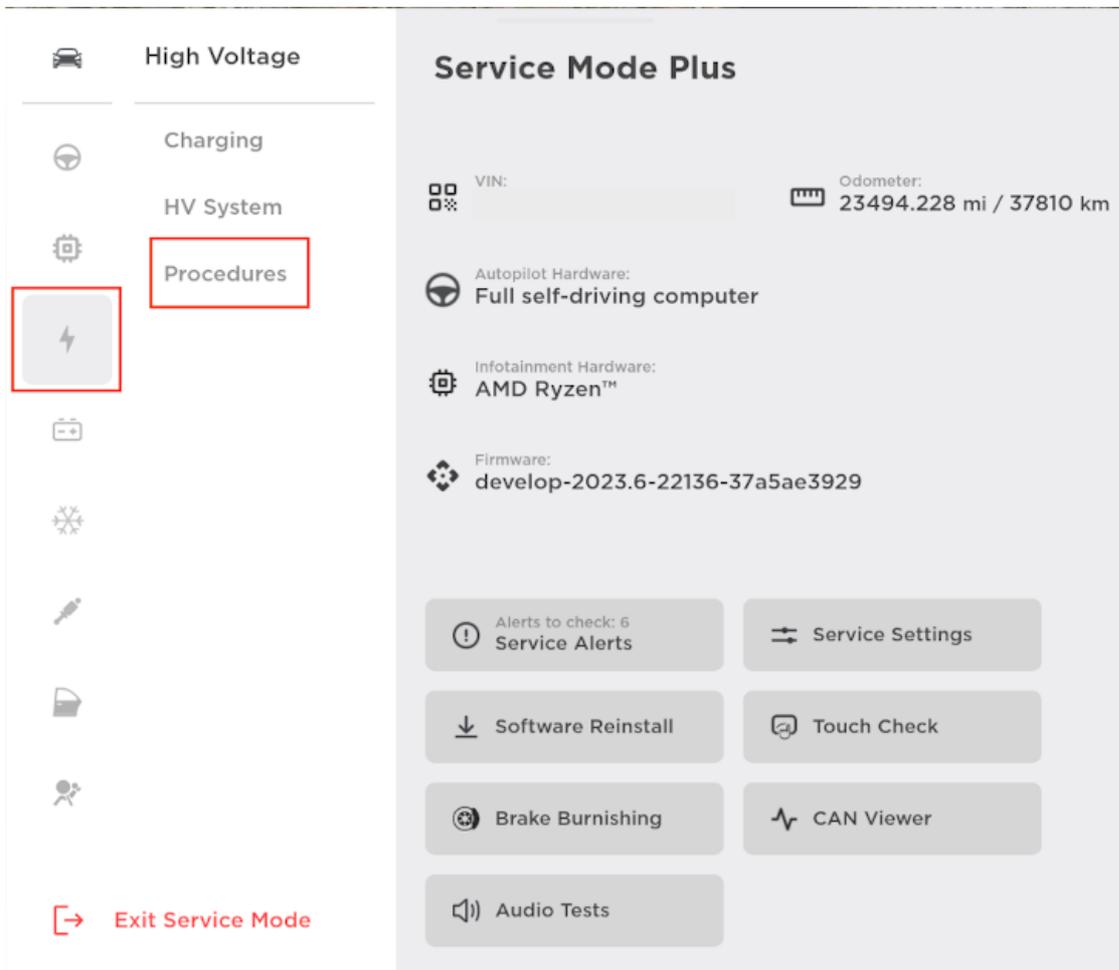
1. To perform the high voltage controller backup, the following conditions must be met.
 - The vehicle firmware is 2023.2.12 or later.
 - The replacement high voltage controller has the exact same part number as the original controller, or the replacement controller part number is revision -P or later, or the replacement controller part number meets the constraints as described in Toolbox article [3190400](#).
2. On the vehicle touchscreen, verify that the vehicle firmware version is 2023.2.12 or later, and if not, update to the latest. See [Software Update](#) [⊕] .



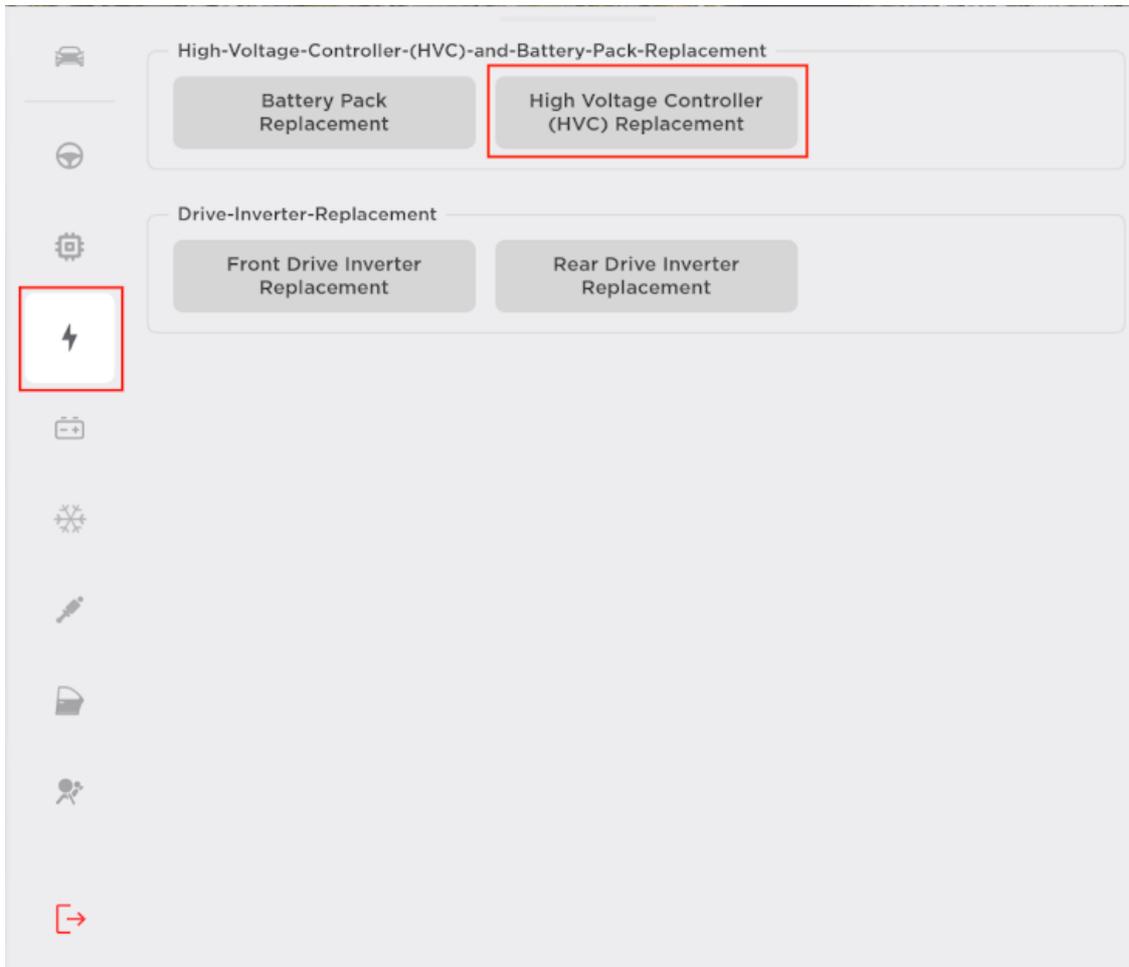
Note

If the installed HVC revision does not fall under the above conditions, update the vehicle firmware to the latest service default.

3. Connect a laptop with Toolbox 3 to the vehicle. See [Toolbox 3 \(Connect and Disconnect\)](#) [⊕] .
4. If not automatically enabled, enable Service Mode Plus. See [Service Mode Plus](#) [⊕] .
5. On the vehicle touchscreen, touch the lightning bolt icon, and then touch Procedures.



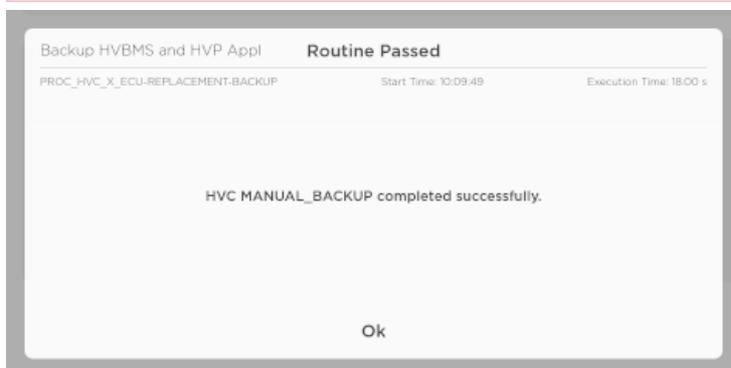
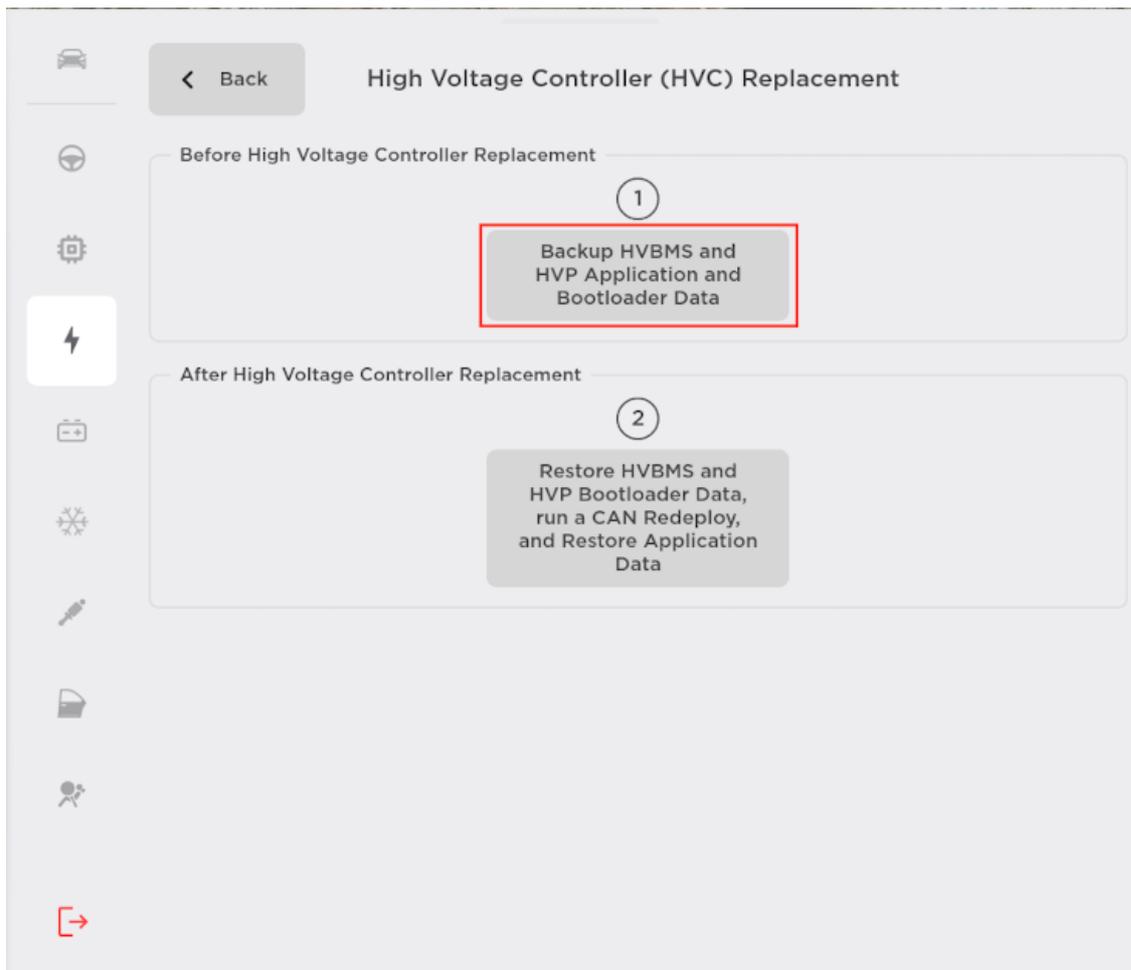
6. Under High-Voltage-Controller-(HVC)-and-Battery-Pack-Replacement, touch **High Voltage Controller (HVC) Replacement**.



- Under **Before High Voltage Controller Replacement**, touch **Backup HVBMS and HVP Application and Bootloader Data**, and allow the routine to complete.

Note
If the backup fails, retry the routine up to 2 more times as it may take this many attempts for success.

Note
If after 3 attempts the backup still fails, or the HVBMS or HVP is indicated as MIA, continue to the next step. There may be a previously saved backup available for restore.



- Disconnect the laptop with Toolbox 3 from the vehicle. See [Toolbox 3 \(Connect and Disconnect\)](#) [⊕].
- Return to the procedure that requested a backup of the high voltage controller data.

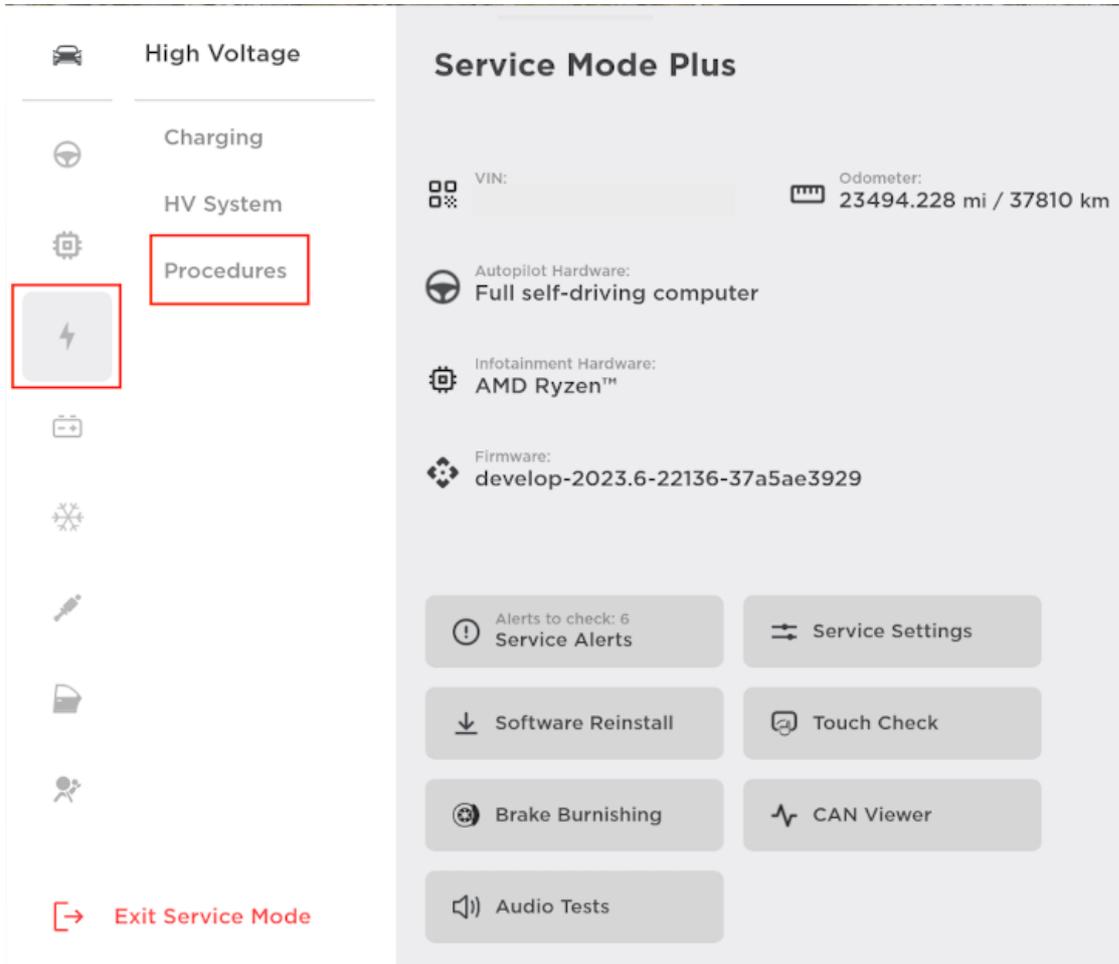
HVC Restore

- Connect the laptop with Toolbox 3 to the vehicle. See [Toolbox 3 \(Connect and Disconnect\)](#) [⊕].

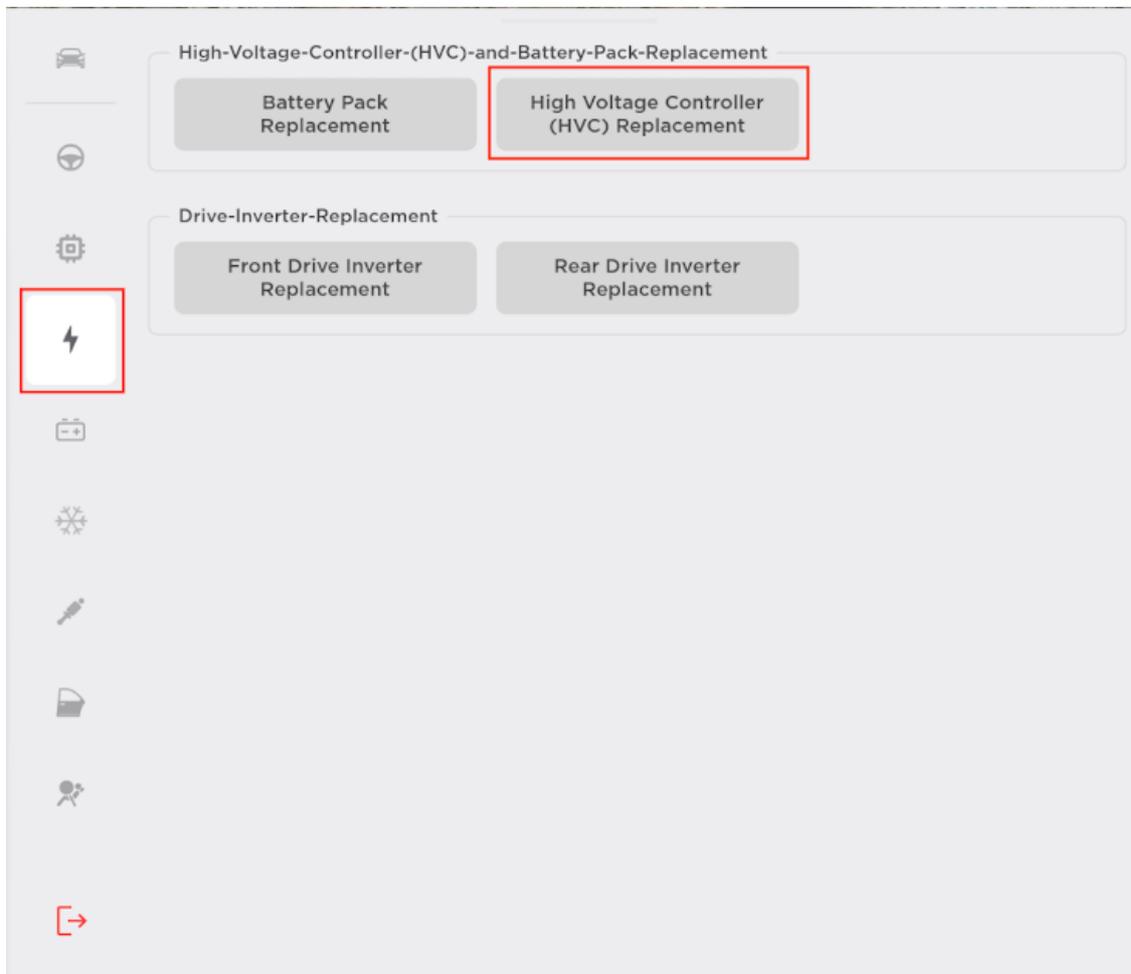
CAUTION

This must be a local, wired connection to the vehicle.

2. If not automatically enabled, enable Service Mode Plus. See [Service Mode Plus](#) .
3. Make sure that there are no staged firmware jobs for the vehicle. If a firmware job is staged, either hammer or complete the job before continuing this procedure.
4. On the vehicle touchscreen, touch the lightning bolt icon, and then touch Procedures.



5. Under High-Voltage-Controller-(HVC)-and-Battery-Pack-Replacement, touch **High Voltage Controller (HVC) Replacement**.



6. Under After High Voltage Controller Replacement, touch **Restore HVBMS and HVP Bootloader Data, run a CAN Redeploy, and Restore Application Data**, and allow the routine to complete.

CAUTION

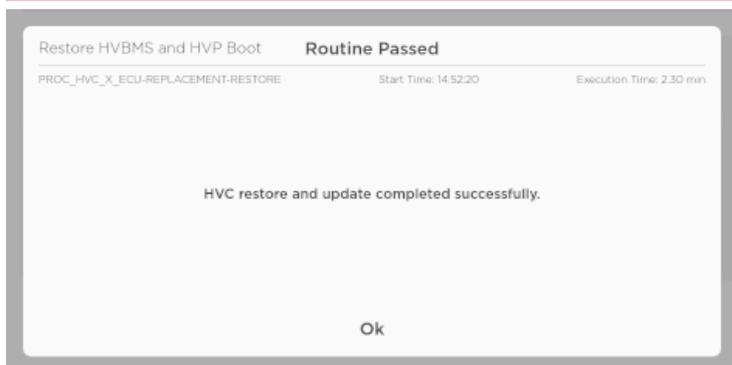
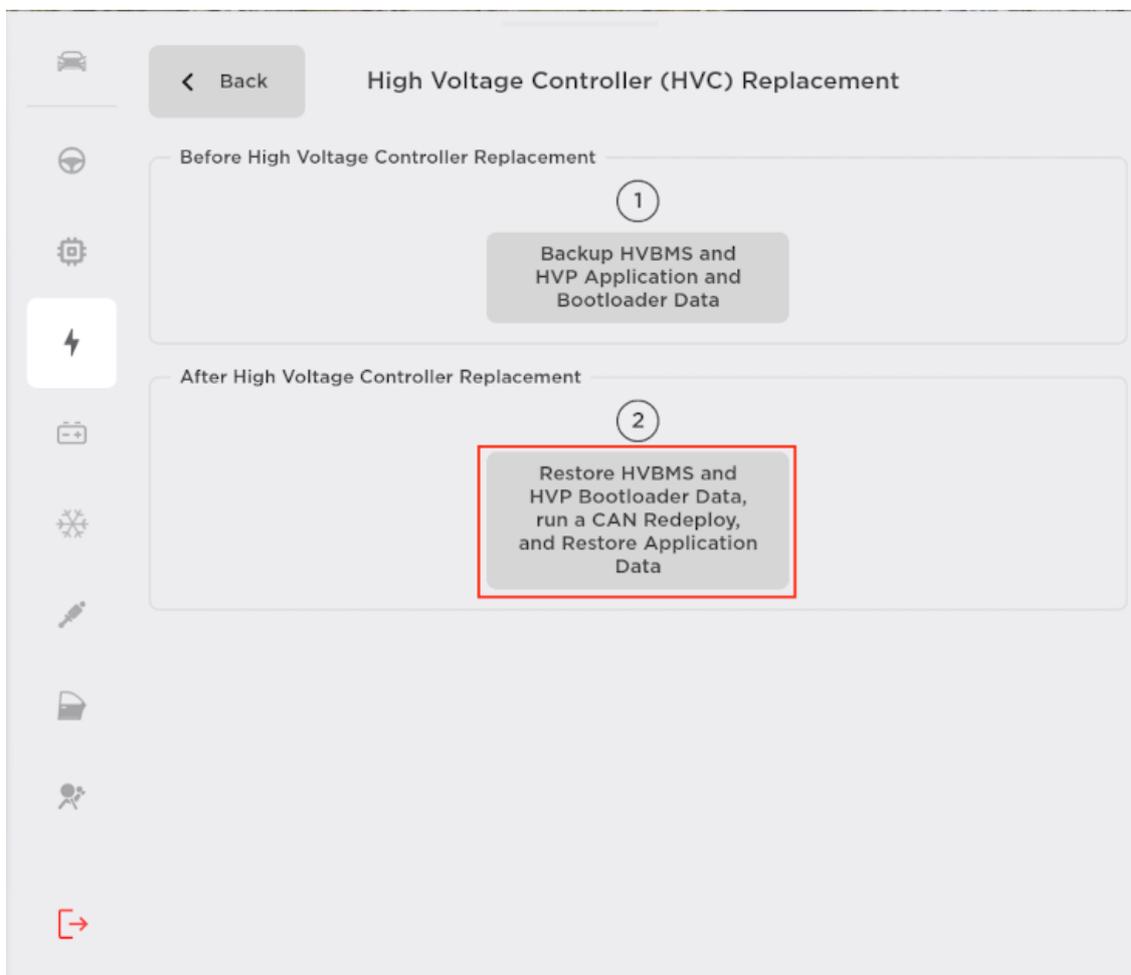
The laptop must remain locally (wired) connected to the vehicle for the entire duration of this automated routine, which is approximately 30 minutes.

CAUTION

Do not disconnect or shut down the laptop until the HVBMS data has been restored, the first CAN redeploy has successfully completed, the HVP bootloader data has been restored, the second CAN redeploy has successfully completed, the Application data has been restored, and the Routine Passed message is displayed.

Note

If the restore fails, retry the routine up to 2 more times as it may take this many attempts for success.



7. Power off the vehicle through the touchscreen.
8. Disconnect the laptop with Toolbox 3 from the vehicle. See [Toolbox 3 \(Connect and Disconnect\)](#) [⊕].
9. Return to the procedure that requested a restore of the high voltage controller data.