

Tilt Screen Retrofit for 2021+ Tesla Model S

Required Parts:

1. GEN4 Left body controller (VC LEFT)

Part #: 1585694-03-B or 1585694-00-C (Either will work as both are listed as replacement parts)

2. Display mount assembly (motors)

Part#: 1607360-00-G

Required Tools:

1. 10mm socket wrench with small extension

2. Small flat head screwdriver

3. RJ-45 Ethernet cable and/or Media Converter to connect to car

4. Toolbox Access

5. Laptop with ethernet port AND Wi-Fi (eth port connects to car. Wi-Fi connects to internet)

Procedure:

1. Follow procedures for Touchscreen and pivot mechanism removal/replace. These procedures are stacked within the manual so pay attention.

<https://service.tesla.com/docs/ModelS/ServiceManual/Palladium/en-us/GUID-D8A5CC96-6757-4DF7-95ED-200B42EC3424.html>

2. Follow procedure listed in the Tesla Model S repair manual for “Module - Body Controller - LH, (remove/replace)”.

<https://service.tesla.com/docs/ModelS/ServiceManual/Palladium/en-us/GUID-502861E2-2498-4E05-BD0D-3291C3B9522F.html>

Note

Completion time will vary greatly depending on your experience level and familiarity. A person who has completed this procedure once before can expect to do it again in less than 45 minutes. A person unfamiliar may spend more than 2 hours.

Warning

- Ensure LV battery and loop are disconnected before beginning the procedures

- Airbag does **NOT** need to be removed during body controller replacement. Just push it off to the side ensuring there is not significant tension on the cable.

- Electrical connectors all have locking mechanism (tab) near the center that must be pushed in to removed.

i.e. In the picture below the yellow arrow points to connector (J4) with standard push tab in the middle of either side, however; the black connector on the left (J6/J7) and white connector on the right (J1/J2) have a similarly small/thin push lock along the long edge that must be pressed in while simultaneously pulling back the top of the connector in a half-circle motion to completely remove. J1/J2 lock tab is on the far-side, while the J6/J7 lock tab is on the near-side of you.



Once the controller is replaced with the new one, you can reconnect the loop and LV connector as per the manual.

Remember, the car will take several minutes to reboot so don't get nervous.

TOOLBOX:

Setup link

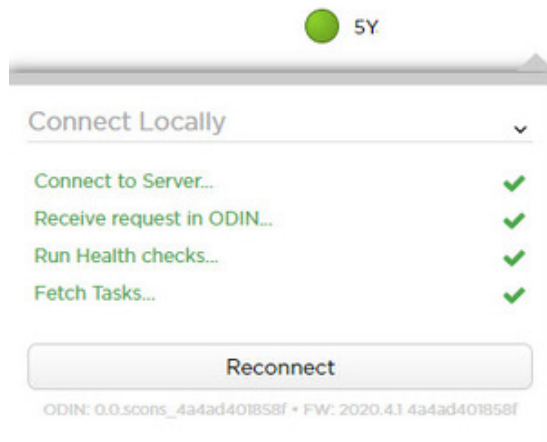
<https://teslamotorsclub.com/tmc/threads/toolbox-3-setting-up-computer-before-starting-subscription.316531/>

Once the car is back online, login to Toolbox and download/run Toolbox Proxy.

Connect to Toolbox by setting your eth IP to static and 192.168.90.125; Subnet 255.255.255.0

Have a wireless connection for access to the internet.

Press the green button on the top-right corner of Toolbox and connect to car. You should see the following.

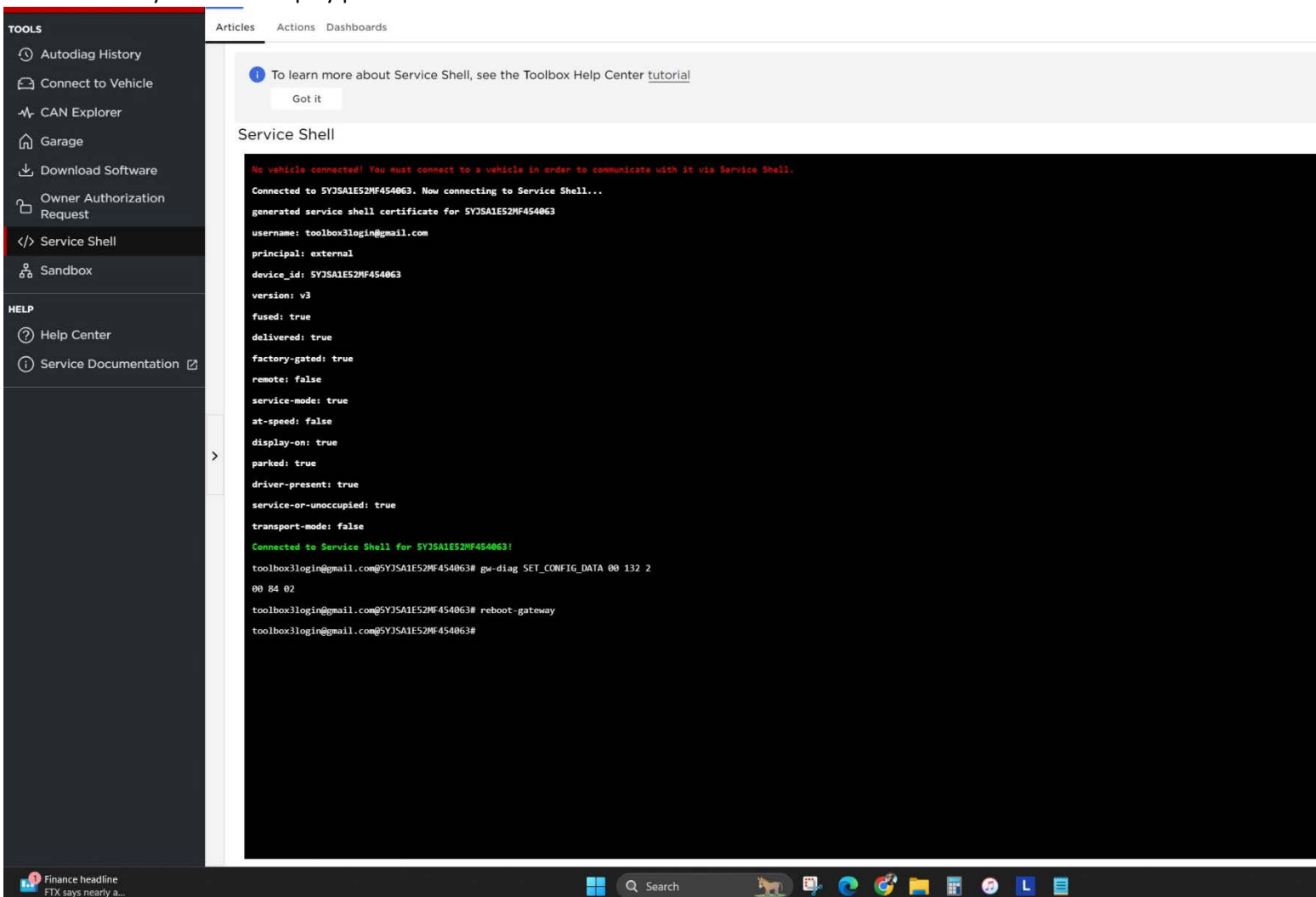


If you are not getting all green checks try any of the following:

- Refresh the site
- Restart ToolBox Proxy

Once connected, click on "Service Shell" and enter the following prompts:

1. "gw-diag SET_CONFIG_DATA 00 132 2" then press enter
2. "reboot-gateway" then press enter
3. On your in-car display press the red Service Mode button and Reinstall Software



Next, continuing with the controller post replacement procedure and in “Actions” search for VCLEFT post click on the following procedure.

“PROC_VCLEFT_X_POST-REPLACEMENT-PROCEDURE” and hit run

This should calibrate your windows, steering wheel, and pair your immobilizer.

***Mine did not complete all the actions so I needed to run the Immobilizer procedure separately. If that happens to you, just search for immobilizer and run that procedure.**

Now, search for Display Mech and run both procedures as seen below in that order:

“Display Mech Calibration”, then “Function Test.”

The screenshot displays the VCLEFT diagnostic software interface. On the left, a sidebar contains 'TOOLS' (Autodiag History, Connect to Vehicle, CAN Explorer, Garage, Download Software, Owner Authorization Request, Service Shell, Sandbox) and 'HELP' (Help Center, Service Documentation). The main area is divided into 'Articles', 'Actions', and 'Dashboards'. Under 'Actions', two procedures are listed: 'Display Mechanism Calibration' and 'Display Mech Functional Test'. Both are of type 'ODIN', path 'PROC_VCLEFT_DISPLAY-MECH-CALIBRATE' and 'PROC_VCLEFT_DISPLAY-MECH-TEST' respectively, system 'Low Voltage Controllers', and description 'Unspecified'. The right pane shows the 'FIRMWARE DETAILS' for the alert 'VCLEFT_a529_displayMechTestNeeded'. It includes 'Alert Information' (Signal Name, Alert Type, Alert ID, Alert Name, Intended Audience), 'Customer Facing Message' (User Text 1, User Text 2), 'Documentation' (Alert Description, Potential Impact, Set Condition, Clear Condition), 'Chime/Notification Behavior' (Behavior Name, Shown on Cluster, Sound Repeated, Sound Name, Icon Type, China Icon Type), 'Debug Text', 'Urgent Alert', 'Latching Alert', 'Supplier DTC Name', and 'Alert Log Signals'.

FIRMWARE DETAILS					
Alert Information					
Signal Name	VCLEFT_a529_displayMechTestNeeded				
Alert Type	Not Available				
Alert ID	529				
Alert Name	displayMechTestNeeded				
Intended Audience	["factory", "service-fix"]				
Customer Facing Message	User Text 1	Not Available			
	User Text 2	Not Available			
Documentation	Alert Description	The left vehicle controller (VCLEFT) detects that the center display tilt mechanism does not have the valid rate tables needed for pinch detection and requires the functional test, PROC_VCLEFT_DISPLAY-MECH-TEST, to be run.			
	Potential Impact	The center display tilt mechanism may not function as expected, which may lead to false pinches.			
	Set Condition	PROC_VCLEFT_DISPLAY-MECH-TEST runs unsuccessfully, is not finished running, or has not been run.			
	Clear Condition	PROC_VCLEFT_DISPLAY-MECH-TEST runs successfully.			
Chime/Notification Behavior	Behavior Name	CENTER_DISPLAY_NO_CHIME			
	Shown on Cluster	False			
	Sound Repeated	False			
	Sound Name	ALERT_SOUND_NONE			
	Icon Type	ALERT_ICON_WARNING			
	China Icon Type	ALERT_ICON_CAR_ISSUE			
Debug Text	Not Available				
Urgent Alert	False				
Latching Alert	False				
Supplier DTC Name	Not Available				
Alert Log Signals	Signal Name	Units	Maximum Expected Value	Minimum Expected Value	SNA Value

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FILTER CAUSES AND

That's it! You're done!

I had a few errors after it was completed (see pic below) but that cleared the next day after getting on Youtube and doing a double-wheel reset. So don't stress it too much.

