

Replacement: Vehicle Safety Controller (VSC) - VH6.B4

This procedure explains how to replace a Vehicle Safety Controller (VSC) on VH6.B4 vehicles.



Zoox Labor Code | R40100

⚠ DANGER



High Voltage

Working with High Voltage is extremely dangerous and can result in injury or death.

Before handling:

Only qualified technicians are authorized to perform work on high-voltage electrical systems.

De-energize the High Voltage system.

Verify that the system has been de-energized.

Ensure the vehicle is protected from reactivation.

Follow the Lock Out/Tag Out (LOTO) procedures.

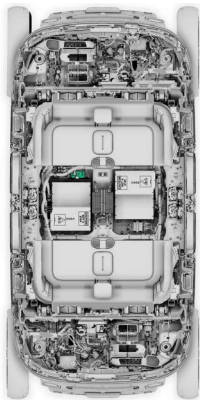
Locate shop emergency equipment.

Do not perform electrical work alone.

Wear High Voltage safety PPE.

Remove all conductive jewelry.

Limit access for non-essential personnel using signs and barriers.



Components, Consumables, and Special Tools



The following components, consumables, and special tools are required to complete this procedure:

Components

Quantity	Component Name	Part Number
1x	VEHICLE SAFETY CONTROLLER (VSC)	P00007371-01

Consumables

Quantity	Consumable Name	Joint ID(s)	Part Number	KPC	Replace? (Y)	Image
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Quantity	Consumable Name	Joint ID(s)	Part Number	KPC	Replace? (Y)	Image
4x	SCREW, BUTTON FLG HEAD, 6-LOBE, M6-1.0 x 16mm	L5BC-10-03-B1.90-J01 to J04	C00000179-01			
4x	SCREW, PH, 6-LOBE, M4-0.7 x 10mm	L5OE-10-03-B.90-J01 to J04	C00000224-01			

Important: Record torque values for all SC Fasteners:

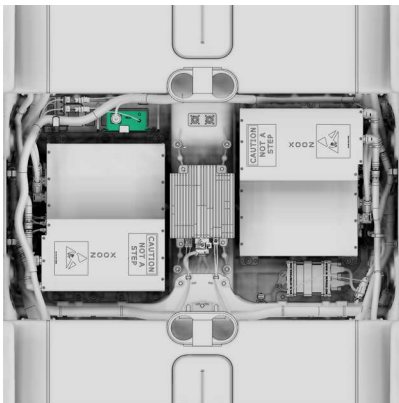
N/A

Special Tools

Tool Name	Part Number
N/A	

VSC Removal

This section explains how to remove the VSC.



1. Verify the Following:

- High Voltage (HV) is Disabled.
[How-To: High Voltage Disable Verification - VH6B Fleet-Wide](#)
- Vehicle is turned OFF.
[Vehicle Operator Manual - VH6 Fleet-Wide](#)

2. Remove 1x Passenger Floor.

[Replacement: Passenger Floor - VH6.B4](#)



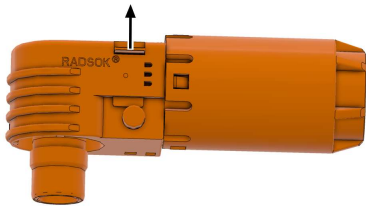
3. Remove 1x Panel Asm, False Floor.

[Replacement: Panel Asm, False Floor - VH6.B4](#)

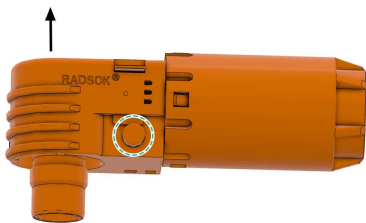
4. Disconnect 2x Harness Asm, Body Connections from the BBB in the Order as Shown:

Order	Part Name	Image
1	Negative Connector (Black) Conn, Surlok, 8mm Pin, 150 Deg Keyway	
2	Positive Connector (Red) HV Conn, Amphenol Surlok Plug 8mm Pin, 90 Degree Key	

a. Unlock the Connector Position Assurance (CPA) on the wire harness connector.

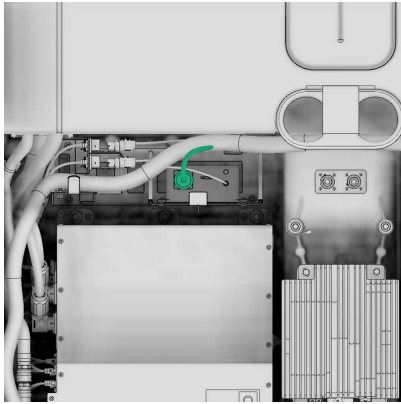


b. Press the button down while pulling out the wire harness connector.

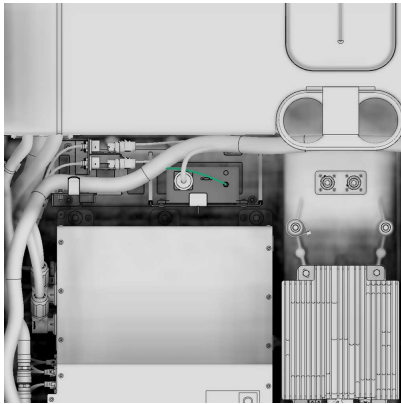


5. Disconnect 2x Low Voltage Harness Connections from the VSC.

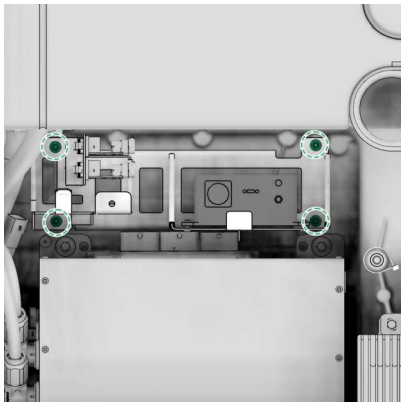
a. 1x Wire harness connector (TH18)



b. 1x Wire harness connector (N/A)

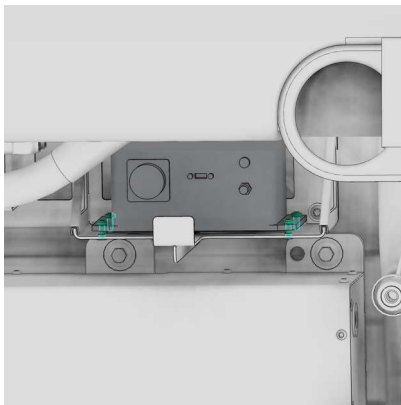


6. For Easy Access to the **VSC**, Remove 4x Fasteners from the Bracket, **VSC** to the Panel, Tub.
4x Screw, Button Flg Head, 6-Lobe, M6-1.0 x 16mm

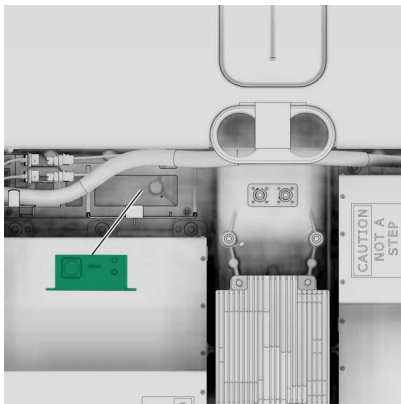


7. Remove 4x Fasteners from the **VSC** to the Bracket, **VSC**.
4x Screw, PH, 6-lobe, M4-0.7 x 10mm

Note: To access the fasteners, move the Bracket, **VSC** aside.



8. Remove 1x VSC from the Vehicle.



VSC Installation

This section explains how to install the VSC.

1. Ensure the Following:

a. HV is disabled.

[How-To: High Voltage Disable Verification - VH6B Fleet-Wide](#)

b. Vehicle is OFF.

[Vehicle Operator Manual - VH6 Fleet-Wide](#)

c. 1x Passenger Floor is removed.

[Replacement: Passenger Floor - VH6.B4](#)

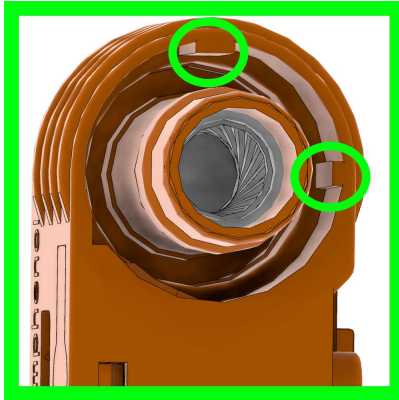
d. 1x Panel Asm, False Floor is removed.

[Replacement: Panel Asm, False Floor - VH6.B4](#)

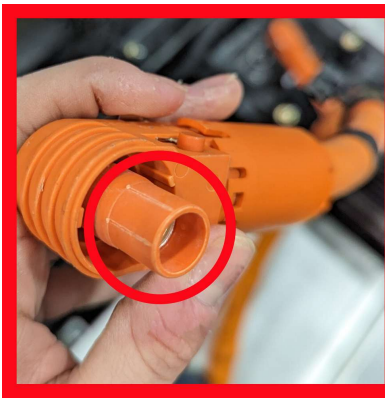
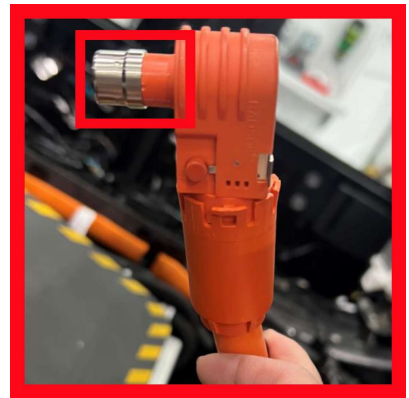
2. Complete the VSC Removal Procedure in Reverse Order.

Ensure to inspect 2x HV Connectors for any visible damage.

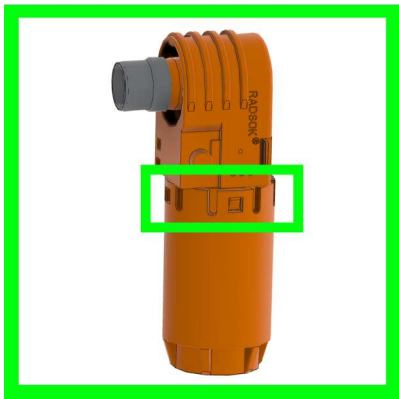
a. Connector Notches

**ACCEPT: Intact Notches****REJECT: Damaged Notches**

b. HVIL Ferrule

ACCEPT: Intact HVIL Ferrule**REJECT: Missing HVIL Ferrule****REJECT: Dislodged HVIL Ferrule**

c. Backshell and Snap Fits

ACCEPT: Intact Backshell**REJECT: Broken Backshell Snap Fits****REJECT: Broken Backshell**

Functional Verification

1. Turn the Vehicle ON.

[Vehicle Operator Manual - VH6 Fleet-Wide](#)



2. Verify the HV System is Enabled and Functions Properly.

[Firefly User Manual - VH6 Fleet-Wide](#)

3. Turn the RoveBot Controller (SRC) ON.



4. Turn the Wireless E-Stop (WES) ON.



5. Verify the WES Button Light is Blinking Red.

6. Verify the SRC Displays the Following Message:

Press 1 to Enter Remote Mode Menu for Settings

7. Complete a Consistency Check with the SRC and WES E-Stop to Confirm Rovebot E-Stop Functionality.

[Tutorial: Estop Consistency Check - VH6 Fleet-Wide](#)

8. Enter Remote Mode and Confirm the Following Rovebot Functions:

- a. Steering mode change
- b. Vehicle direction change
- c. Accelerate and brake

Revision History

Version	Description	JIRA	Date
1	Initial release.	BD-1400	September 17, 2024
2	Added step 7 to remove fasteners on Bracket	BD-4573	October 8, 2024