Battery Electric Vehicle (BEV) - Diagnostic Trouble Code (DTC) - P11561A, P11571A, P115684, P115784

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Valid For
Mack - LR-E
Volvo - VNR-E
Model Years 2021 to current

There has been a rise in questions regarding (DTC) - P11561A, P11571A, P115684, P115784 due to the limited amount of diagnostic information available.

Module	Code	Description
Hybrid Power Control Unit (HPCU)	P11561A	Hybrid/EV Traction Voltage Bus A, Isolation Resistance Negative Pole, Circuit resistance below threshold
Hybrid Power Control Unit (HPCU)	P11571A	Hybrid/EV Traction Voltage Bus A, Isolation Resistance Positive Pole, Circuit resistance below threshold
Hybrid Power Control Unit (HPCU)	P115684	Hybrid/EV Traction Voltage Bus A, Isolation Resistance Negative Pole, Signal below allowable range
Hybrid Power Control Unit (HPCU)	P115784	Hybrid/EV Traction Voltage Bus A, Isolation Resistance Positive Pole, Signal below allowable range

If (DTC) - P11561A, P11571A, P115684, P115784 are found to be active refer to Impact document 3100-06-03-01 Traction Voltage System, Isolation Test for detailed diagnostic instructions.

Related links and attachments

No links or attachments available

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31010-3 Traction Voltage System, Isolation Test

i	Illustrations may differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

i	Colors used in illustrations are for highlighting purposes only and do not correspond to the actual colors of the vehicle.

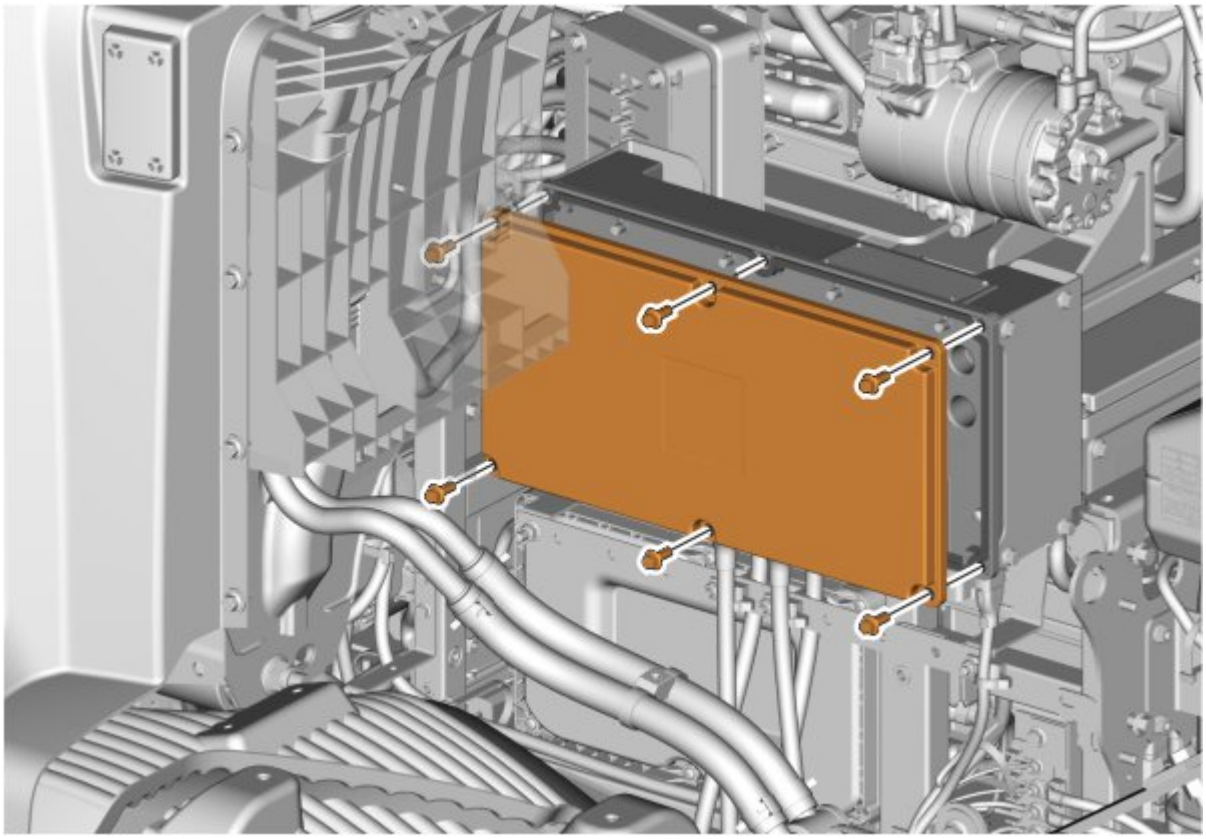
i	All threaded fasteners that do not have a tightening torque specification in the information are tightened to a standard torque. Standard torques are available in the following specification. ➠ Standard Tightening Torques

⚠ DANGER
Risk of electrical discharge. Incorrect handling of the traction voltage system (>60 V DC or >30 V AC) can cause electric shocks and arcs resulting in serious burns or death.
▸ Decommissioning and commissioning must only be carried out by personnel with adequate certification according to **Safety regulations, electric vehicles**, in function group 30.
▸ The procedures described in the decommissioning and commissioning instructions are the minimum requirements. Make sure to follow local complementary instructions, if applicable.
▸ Always comply with any local legislation or regulations imposing stricter safety requirements, including but not limited to the measuring tools and personal protective equipment to be used.

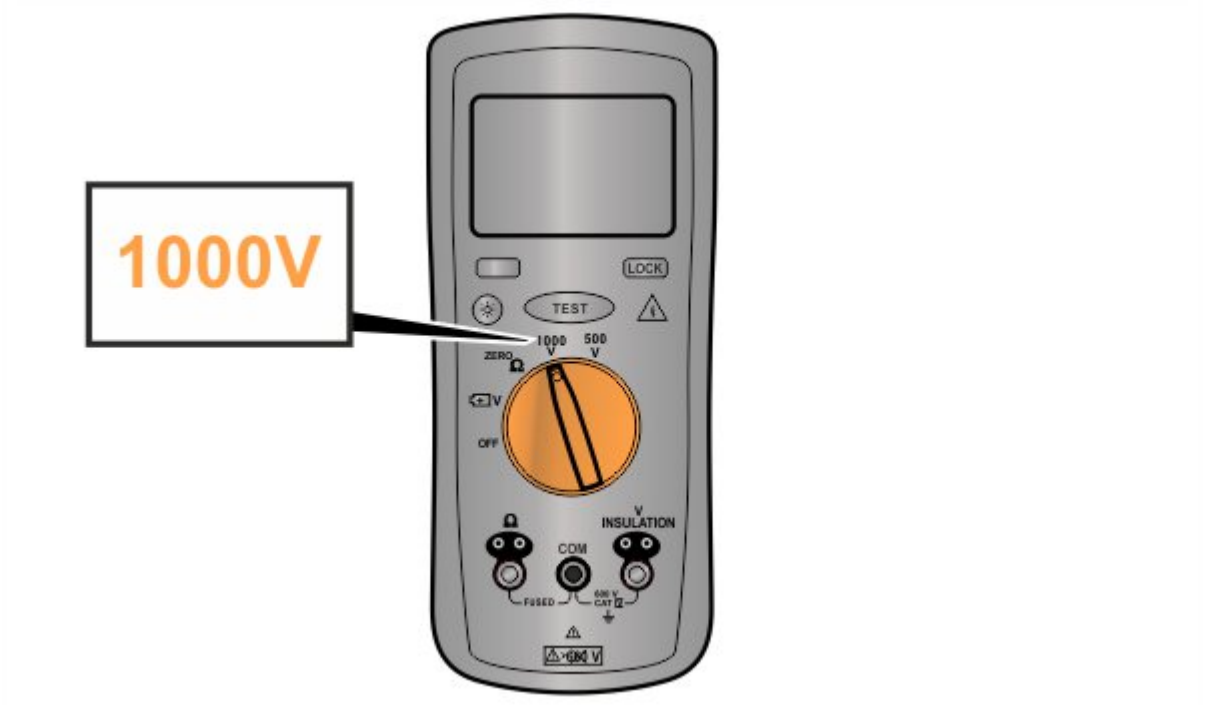
Special tools

88890142

1	Ensure that decommissioning of the TVS (Traction Voltage System) has been performed.
2	Unlatch and raise the hood.
3	Clean the junction box. i **Note** Ensure that no dirt enters the junction box. i **Note** The work area must be kept dry.
4	Remove the screws.
5	Remove the cover.



6	Set the measuring tool to 1000 V.



7	Test the insulation with 1000 V between the **(+)** bar in the junction box and the junction box ground.	
	Tech data	
	Probe pin, depth **(A)**	13.5 mm (0.531 in)

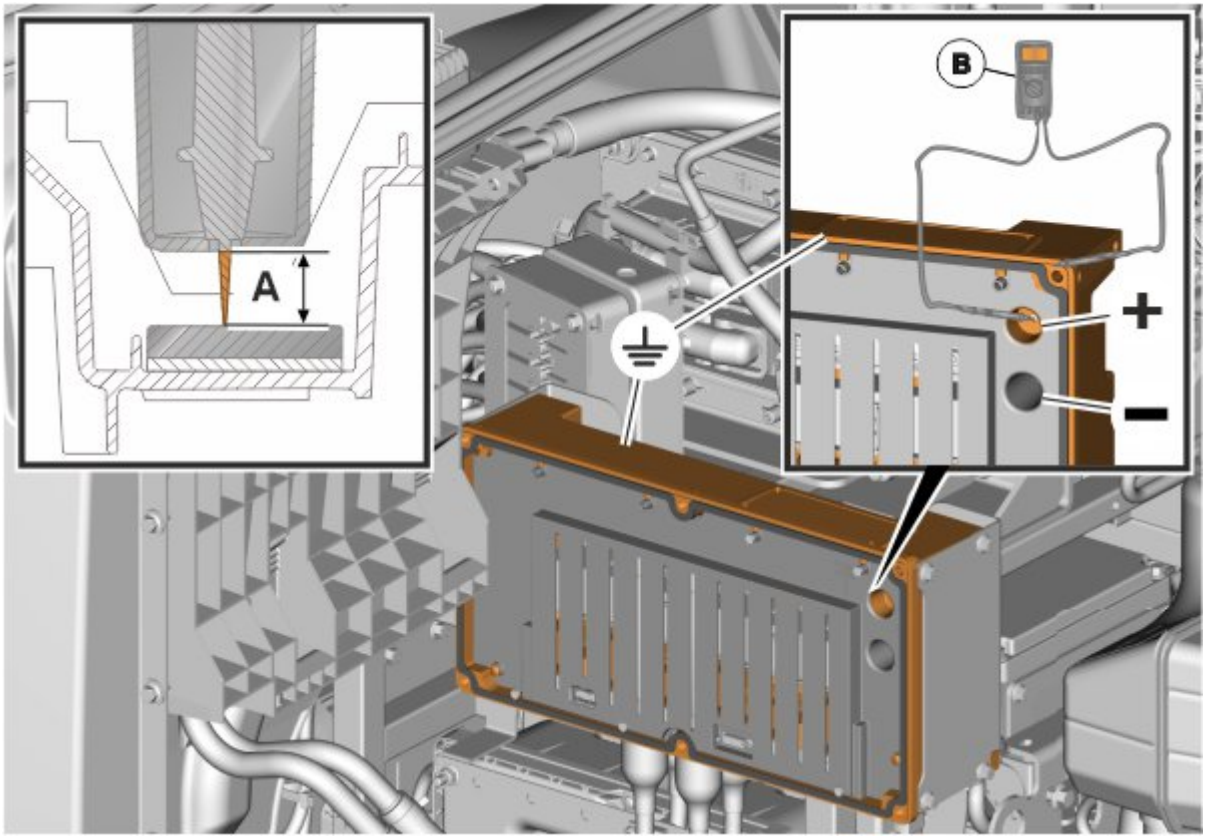
Insulation resistance, measurement

Insulation resistance, measurement (R)	1 MΩ < R < 5 MΩ

Required material		
B	INSULATION TESTER	88890142

Service hint
The pin of the pen must touch the bar and should have a maximum diameter of **(Φ7.5 mm)**.

Note
Press and hold the test button for at least 5 seconds to let the value stabilize.



8 Test the insulation with 1000 V between the **(–)** bar in the junction box and the junction box ground.

Tech data

Probe pin, depth **(A)**	13.5 mm (0.531 in)

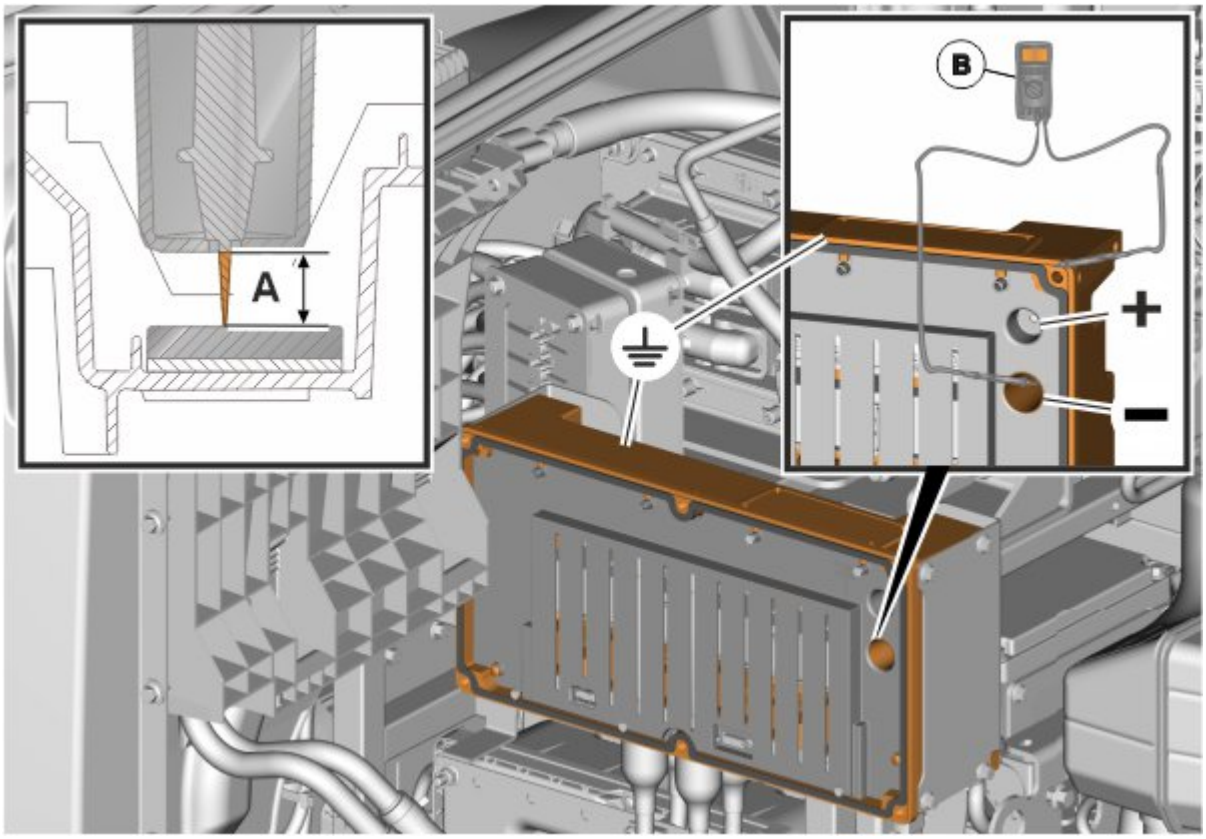
Insulation resistance, measurement

Insulation resistance, measurement (R)	1 MΩ < R < 5 MΩ

Required material		
B	INSULATION TESTER	88890142

Service hint
The pin of the pen must touch the bar and should have a maximum diameter of **(Φ7.5 mm)**.

Note
Press and hold the test button for at least 5 seconds to let the value stabilize.



9 Perform this procedure when the condition below is met.

Conditions

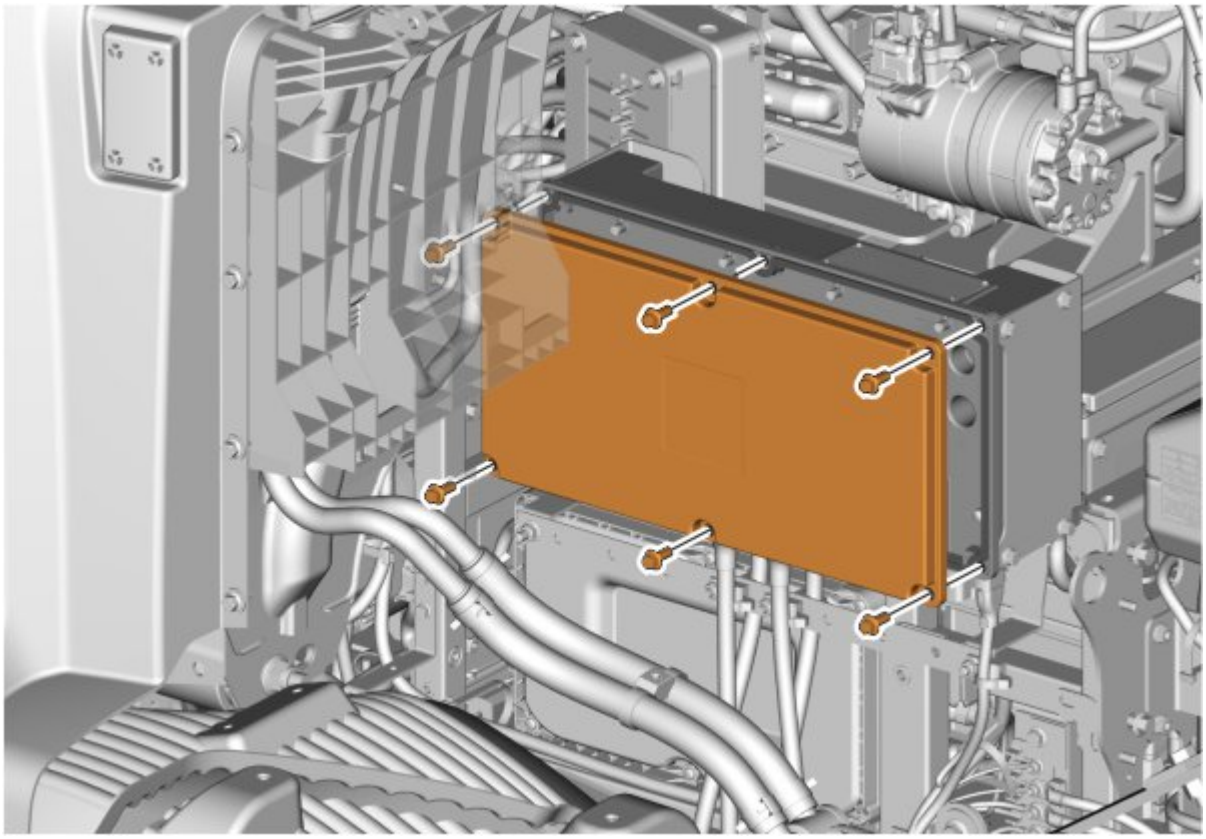
- If the value does not match

▸ Contact technical support.

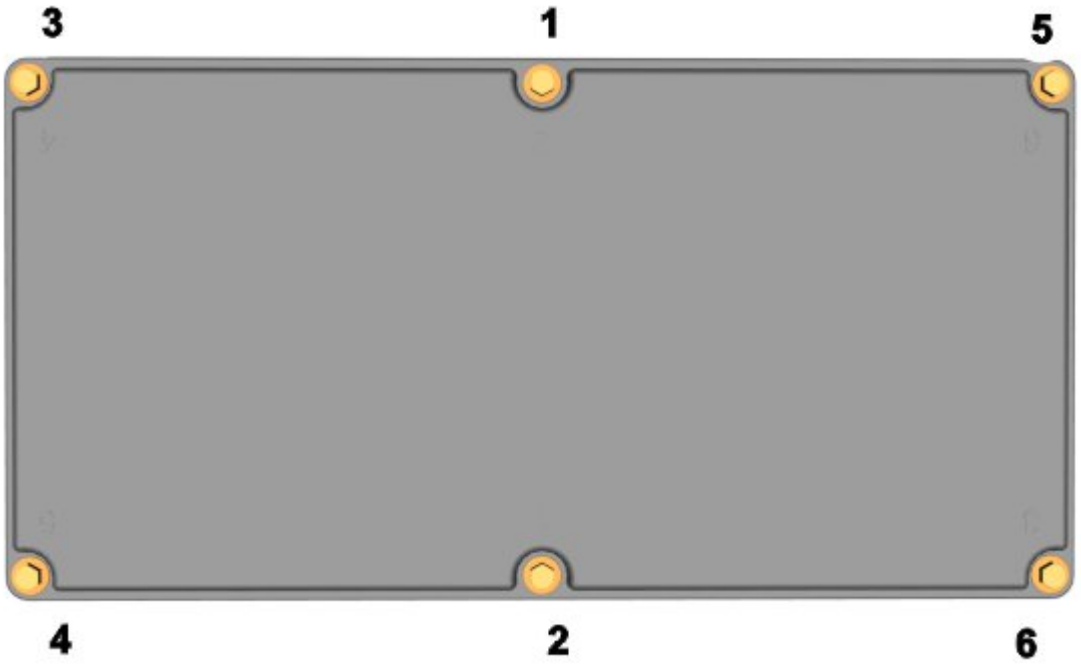
10 Install the cover.

11 Install the screws.

12 Torque tighten the screws.



Tightening torque	
Junction box, cover, screw	Tightening sequence 1-6
	24 ±4 Nm (18 ±3 lb_f·ft)



13	Lower the hood. **Note** Ensure that the hood is latched.