

TOOL USE INSTRUCTION

RIVIAN

TOOL NUMBER TSN01277-300-C

TITLE HV TEST ADAPTER TOOL C1/BENGAL ESS

REV - DATE REV A - 6/4/2025

CONTENTS

[OVERVIEW](#)

[SAFETY](#)

[INITIAL SETUP](#)

[TOOL USE INSTRUCTION](#)

[MAINTENANCE & STORAGE](#)

[SERVICE & REPLACEMENT PARTS](#)

[TROUBLESHOOTING](#)

[SYMBOL GLOSSARY](#)

TOOL FUNCTION

TO VERIFY THE HV BATTERY STATE PRIOR TO PERFORMING SERVICE PROCEDURES. TOOL INTERFACES TO THE C1 HV BATTERY PACKS (COMBINATION BREATHER PORT/SPARE HEADER) AND INSULATION METER. TOOL IS ALSO BACKWARDS COMPATIBLE WITH PACKS CONTAINING DEDICATED SPARE HV HEADERS.



6/4/25 REV A

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OVERVIEW

MANUFACTURER

Cal Test Electronics
22820 Savi Ranch Pkwy #4610
Yorba Linda, CA 92887

CAT O DEFINITION

Other circuits that are not directly connected to mains

DESCRIPTION OF SYMBOLS



Caution

SPECIFICATIONS

Weight: ~0.032 kg
Overall Dimensions: 1133 mm x 32 mm x 20 mm
Voltage: 600V DC CAT O

LABOR CODES

340010017, Disable High Voltage

OTHER TOOLS REQUIRED

TSN00020-100-A, DIGITAL INSULATION METER

ENVIRONMENTAL CONDITIONS

1. Altitude up to 2,000 m
2. Ambient temperature of 5°C to 40°C
3. Maximum relative humidity of 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C
4. Applicable pollution degree of the intended environment






**WARNING**

Do not perform procedure if tool is damaged or missing parts. Consult the Rivian Service Tool Catalog for replacement components.

Failure to follow guidelines outlined in this document could result in injury and/or property damage.

SAFETY GUIDELINES

Tool to be used with C1, C1-53G, and EDV LFP100 high voltage battery packs only. Tool prohibited with any other main circuits. Do not use device outside of manufacturer's recommendation.

1	PPE Required <ul style="list-style-type: none"> • Eye Protection, Gloves, Closed Toe Shoes • ASTM class 0 electrical-protection gloves with leather protectors must be worn when working near any exposed high voltage conductor. • Before beginning, test electrical-protection gloves for air leakage and visually inspect them for damage. Repeat the air test and inspection immediately following any incident that can reasonably be suspected of causing damage. 	
2	CAUTION: <ul style="list-style-type: none"> • Do not perform procedure if any equipment is missing or damaged. 	
3	DANGER: <ul style="list-style-type: none"> • Risk of electrocution or electric shock 	

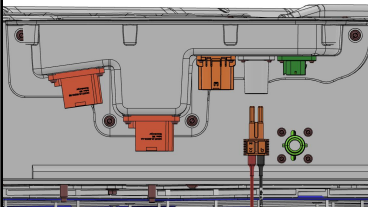
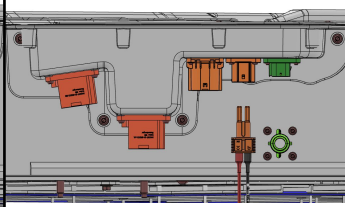
TOOL USE INSTRUCTION

Note:

TSN01277-300-C: HV Test Adapter Tool C1 ESS is compatible with all configurations of C1 HV battery packs (interfaces with dedicated HV spare header as well as combination HV breather port/spare header)

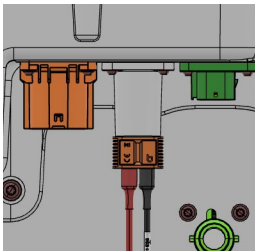
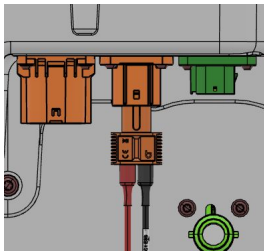

Applicable Vehicle Programs:

- R1's with NCA (C1) packs that have a spare HV header (prior to 2024)
- R1's with NCA (C1) packs that have a combo breather/spare HV header (2024)
- EDV's with NCA (C1) packs that have a spare HV header (prior to 2024)
- EDV's with LFP (Bengal) packs that have a spare HV header (2024+)

Step	Directions	C1 w/ BREATHER PORT/SPARE HEADER	C1 w/ SPARE HEADER
1	Install the HV tool so that the positive (red) lead is oriented towards the front of the pack (positive is closest to the 4 pole Aptiv connector, negative (black) closest to the Aptiv low voltage connector).		



TOOL USE INSTRUCTION

Step	Directions	C1 w/ BREATHER PORT/SPARE HEADER	C1 w/ SPARE HEADER
2	Make sure that the HV tool is fully seated on breather port/spare header.		
3	Connect tool to TSN00020-100-A, Digital Insulation Meter as shown.		
4	Once connected, refer to service manual to complete HV disabling procedure.		



MAINTENANCE & STORAGE

TASK	FREQUENCY
Inspect the test leads regularly for any signs of wear, cracks, or damage to the insulation.	Before and after every use
Check for loose or damaged connectors. If any damage is found, replace the tool with a new one.	Before and after every use

TROUBLESHOOTING

PROBLEM	SOLUTION
There is no reading on the Digital Insulation Meter	<p>Verify that the test adapter tool is fully seated in the breather port/spare header</p> <p>Verify that the test leads are fully installed in the Digital Insulation Meter</p>





DANGER

Risk of electrocution or electric shock



WARNING

Risk of minor injury



DANGER

Risk of major injury such as

- fire
- chemical or poison
- crushing / maiming
- death



CAUTION

Risk of

- damage to vehicle or property
- data disruption
- voiding warranty

IMPORTANT

Instructions to successfully complete a task

NOTE

Useful information

REVISION LOG

REV	DATE	CHANGE DESCRIPTION
A	6/4/25	Initial release

